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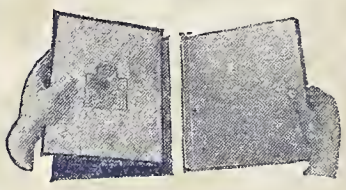

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ABERRATIONAL AND SUBSPECIFIC FORMS OF BRITISH LEPIDOPTERA

BY

A. L. GOODSON & D. K. READ.

FOR INTERNAL USE ONLY

Volume 2

Rhopalocera Part 2

E. aurinia Rott., aberrational forms, etc.

INDEX

aurinia Rottemburg. Naturf.1775.6.p.5.
Typical form - wings fawn with three fasciae of yellow. spots.

aberrational forms etc.

aurinia
subsp.anglicana Fruhstorfer. Arch.Naturg.1916.82.A2.p.6.
According to the author the subspecies in England. It does not appear constant. The author only separates it from the Irish subsp.hibernica from which it is of course different. Differs from the Irish race by the black banding of the fore-wings and the small interneural spots of the hindwings,and the whitish-yellow spots seen in hibernica are replaced by dull ochre-yellow,its appearance being less gay.

aurinia
acedia Fruhstorfer. Arch.Naturg.1916.82.A2.p.7.
According to the author the subsp.from Wales. It is in no way constant and cannot be separated from English populations.Fruhstorfer says it is distinguished by the large and regular spots of the submedian row not being surrounded by black transcellular bands.In the female the light field of the forewings seems more extensive,and the black and reddish-brown portions are missing.

aurinia
scotica Robson. Young.Nat.1880.2.p.37.
Robson says of the Scottish specimens -smaller,scarcely so densely scaled,the black parts duller- but apparently,like Fruhstorfer,he was merely distinguishing them from the Irish hibernica.
I do not think that Scottish specimens require a subspecific name,most cannot be separated from English,there being no constant character.

aurinia
subsp.hibernica Birchall. Ent.Mon.Mag.1873.10.p.154.
The subspecies from Ireland. Birchall says "In the Irish race the fulvous spots of the upperside are largely replaced by white or cream blotches,larger than English specimens.
This race is certainly different from other British populations,the main character being the whitish spotting.

ab. artemis Schiffermuller. Wien. Syst. Verz. 1775. p. 322.
= artemis Fabricius. Mantissa Ins. 1787. 2. p. 61.
The description given by Schiffermuller is of little use but Fabricius, citing Schiff's description and presumably describing the same form, gives a better one. Schiffermuller merely says - chequered butterfly, orange-yellow, simple spotted. Fabricius gives - fulvous varied with black, hindwings on both upper and underside with a row of black points.
The form therefore is fulvous without the yellow spots of the typical form. Several aberrations have been described which are actually the same as this form but they are given as having more complete descriptions.

ab. fulvacea Cabeau. Rev. Mens. Soc. Ent. Nam. 1911. 11. p. 78.
The ground colour paler fawn than the following namurcensis Lamb. and the black marginal border narrower. The transverse band of yellow spots in the disc and at the margins completely absent.
Probably synonymous with artemis Schiff. the preceding, but may be paler ground, it is included because it is doubtful what Fabricius meant exactly by "fulvous".

ab. brunnea Tutt. Brit. Butts. 1896. p. 316.
Also probably the same as artemis Schiff. The ground colour tawny, no red or straw coloured markings, the colour resembling M. cinxia.

ab. namurcensis Lambillion. Rev. Mens. Soc. Ent. Nam. 1909. p. 21.
The ground colour reddish-fulvous with a complete absence of the yellowish spots of the typical form on all wings. The black border is double the width of the fringe, the hindwings even more broadly bordered, this border forming undulations marking the position of the normal white marginal spots which are obliterated, the lines deep black as in M. maturna.

ab. semifuscata Cabeau. Rev. Mens. Soc. Ent. Nam. 1919. 19. p. 61.
The upperside of the forewings covered with strong brownish so that the yellow spots are absent and most of the markings confused. The hindwings normal.

ab. denigrata Turati. Nat. Sic. 1919. 23. p. 222. pl. 2.. f. 3.
= gracilens Derenne. Lamb. 1927. 27. p. 10.
Upperside of all wings fulvous, the pattern scarcely visible, the normal black bands represented only by an intensification of the scaling.
gracilens would appear to be the same form, the forewings uniformly fulvous, the lines very thin or obliterated.

ab. semigracilens Cabeau. Lamb. 1931. 31. p. 199. pl. 12. f. 8.
The forewings uniformly fulvous with the lines very thin or obliterated. The hindwings however greyish-black with some fulvous markings more or less well developed.

ab. splendida Mauny. Lamb, 1949. 49. p. 105.
Male with the forewings pure rose-pink, all the usual black and yellow spots having disappeared. The black spots are replaced by spots of bright red-currant colour. The patterning of the forewings is almost extinct and the scaling very poor. The hindwings are normally scaled on a rose-pink ground colour and all the patterning is in red-currant colour, the rows of submarginal spots are present but instead of black are a fine metallic blue colour. Body, legs and antennae are white.

ab. leucophana Cabeau. Lamb. 1928. 28. p. 78.
The ground colour of the forewings is white, slightly yellow, the pattern normal. the hindwings are of normal colour.

ab. semigriseis Cabeau. Lamb. 1931. 31. p. 3.
The upperside of the hindwings is pale and washed-out, the normal pattern is grey and the antemarginal band, normally red, is yellow. The forewings are quite normal and form a striking contrast to the pale hindwings.

ab. diluta Heinrich. Dtsch. Ent. Z. 1923. Beitr. p. 48.
The black transverse lines of the forewings very narrow, partly effaced, and the shading on the inner margin also effaced.

ab. sesquiargentea Verity. Farf. Diurn. It. 1950. 4. p. 72.
Albino. The fulvous colour is normal but the black patterning replaced by silvery whitish.
This was described but not named by Oberthur in Lep. Comp. 3. p. 231.

ab. ochrea Tutt. Brit. Butts. 1896. p. 318.
All the pale markings of the forewings uniformly ochreous without a trace of red. Tutt presumably means the yellow spots by "pale markings".

ab. praeclara Kane. Entom. 1893. 26. p. 158.
The upperside showing the red bands and central straw-coloured spots very vivid and the black reticulation darker than in the type form, defining the coloured parts sharply. The red bands are brilliant terra-cotta.
The name covers extremely brightly coloured and contrasting examples, see figures in Hubner Samml. Eur. Schmett. 1. figs. 4, 5 and 6. It is not a name for Irish examples only, since Kane gives English localities as well as Irish for the form.

ab. rectiangula Cabeau. Rev. Mens. Soc. Ent. Nam. 1924. 24. p. 17. (fig. Lamb. 31. pl. 12. f. 5)
On the upperside of the forewings there is a large whitish-yellow rectangular blotch in the centre of the inner margin, caused by the union of two yellow spots.

ab. infrarectiangula Caruel. Lamb. 1939. 39. p. 46. pl. 4. f. 1.
On the upperside of the hindwings there is a rectangular yellow spot situated near the anal angle on the inner margin, formed by the union of a yellow basal spot with the opposite spot of the median row,

ab. virgata Tutt. Brit. Butts. 1896. p. 318.
= sterlineata Turati. Nat. Sic. 1919. 23. p. 221. pl. 2. f. 2.
= ,flavofasciata Hackray. Lamb. 1934. 34. p. 126. (fig. Lamb. 35. pl. 5. f. 2.)
= albofasciata Frohawk. Vars. Brit. Butts. 1938. p. 75. pl. 17. f. 1.
On the upperside of the forewings the straw coloured band is normally divided at its upper part by a thin black streak. In virgata this is absent, resulting in one broad, conspicuous, yellowish median band.
The figures of the synonymous forms show broad median bands of varying widths, Frohawk gives his form the misleading name of albofasciata, the band is not white in the type specimen, which we possess.

ab. dubia Krulikowsky. Bull. Soc. Nat. Mosc. 1890. 4. p. 234. pl. 4. f. 1.
The hindwings on the upperside show a series of fulvous ocelli with black pupils, in place of the normal fulvous band.
The figure shows these ocelli to be the remains of the normal fulvous marginal band with its small black points, which is reduced to a series of round fulvous spots through the veins being heavily dusted with black and cutting the band into sections, the little black points being in their normal place.
There seems to be some confusion among authors regarding this form, some referring it to examples which show black points in the yellow spots of the median row as figured in Lamb. 31. pl. 12. f. 2.. This is not correct as Krulikowsky's figure shows, it is the reddish-yellow marginal band which is affected.

ab. demaculata Bubacek. Verh. zool.-bot. Ges. Wien. 1923. 73. p. (24).
On the hindwings upperside the median band is reduced to spots. On the underside the basal spots are absent.
For the latter character only, see the underside form sesostris Schultz.

ab. geminifasciata Derenne. Lamb, 1927. 27. p. 11.
On the upperside of the hindwings the normal yellow fascia is bordered with black and an extra band of less clear yellow external to this which reaches the submarginal row of black points, so that there remains only half the width of the normal fulvous band.

ab. deficiens Cabeau. Lamb. 1928. 28. p. 11. (fig. Lamb. 31. pl. 6. f. 6)
On the upperside of the hindwings the median black distal line, which borders externally the median fascia of yellow spots, is obliterated. The basal region and narrow marginal border leave a large fulvous area only marked by five submarginal spots. On the forewings the markings are thin and indistinct.

ab. impunctata Schultz. Ent. Z. 1906. 19. p. 205.
= impunctata Vorbrodt. Iris. 1928. 42. p. p. 20.
The little black points in the fulvous submarginal band of the hindwings are absent. These are absent also on the underside.
Vorbrodt gave the same description but does not mention the underside.

ab. nigrolimbata Schultz. Ent. Z. 1906. 19. p. 205. fig.
A wider marginal border to all wings, therefore the small light spots, normally seen between the fulvous band and the narrow dark border, are indistinct.
The figure show a black marginal border to all wings with only a trace of the white spots which normally lie internal to a narrow black border.

ab. perianthes Cabeau. Lamb. 1926. 26. p. 74.
Upperside of hindwings with a border of deep black with large white points.

ab. insterburgia Braun. Ent. Rundsch. 1937. 54. p. 556. fig.
Upperside of the hindwings, instead of the usual fulvous submarginal band, shows a dark blackish-brown band in which the little black spots are ringed with fulvous.
The figure shows a very dark band in place of the usual yellowish-brown one.

ab. signifera Kane. Entom. 1893. 26. p. 158.
On the upperside of the hindwings the upper half of the fulvous submarginal band is prolonged inwards invading the central series of yellow spots and colouring the costal half of the normally black basal area. On the forewings the cellule is isolated by broad black edging from the rest of the wing, a trait seen to a lesser degree in the basal blotches below the median vein, the two areas looking like the fore and hindwings of a "Tineae".
This form, described from Penarth, Wales, is not racial but an aberration.

ab. morena Ribbe. Iris. 1910. 23. p. 132.
The yellowish bands of the upperside of the forewings are replaced by black, totally or almost so.

ab. transversa Cabeau. Lamb. 1928. 28. p. 11. (fig. Lamb. 31. pl. 6. f. 1.)
The upperside of the forewings cut by a broad black fascia. in the median area. The figure shows this band on the inner side of the main row of yellow spots, continuous from costa to inner margin.

ab. suffusa Frohawk. Vars. Brit. Butts. 1938. p. 75. pl. 17. f. 3.
Fore and hindwings divided by a thin yellow median transverse line which separates two contrasting colours of black and red. The basal half is suffused blackish, the outer half reddish or orange-brown, with the markings more or less normal. In the dark basal half there are faint indications of yellow spots near the costa.

ab. epimolpadia Reverdin. Bull. Soc. Lep. Gen. 1919. 4. p. 108. pl. 4. f. 4.
Fore and hindwings on the upperside strongly dusted with black except for a narrow transverse band of orange in the submarginal area. The margins have a broad black border. In the darkened parts of the wings the normal pattern is only just discernible but on the forewings there are two orange-brown spots near the costa and on the hindwings traces of orange-brown showing through the black.
See sketch at end of these notes.

ab. atricolor Schultz. Ent. Z. 1906. 19. p. 205.
All wings on the upperside covered with a dusting of black scales. On the forewings there are a few rufous spots showing near the costa and on the hindwings a red submarginal band with its row of little black points, otherwise the wings are black.

ab. catherinei Le Charles. Amat. Pap. 1924. 2. p. 88. Extra pl. f. 5.
An extreme aberration of the markings difficult to describe, see Figure in colour. On the upperside of the forewings the inner half of the wings black, with two red stripes or spots on the costa. The outer half shows a wide fascia of reddish-brown in the centre of which is a suffused transverse row of yellow spots, and external to this a wide black border on the margin, with a row of lighter spots on its extrme edge, these light spots normally are inside it. Hindwings with the basal half more or less normal but the rest of the wings black with a lighter, greyish, submarginal band in which are some whitish spots in place of the normal little black points. The underside shows the inner half of fore and hindwings reddish-brown, the outer half white or cream with a submarginal line.
See figure at end of these notes.

ab. obscurata Krulikowsky. Bull. Soc. Nat. Mosc. 1890. 4. p. 235. pl. 8. f. c.
The latin description merely says melanic form with wings reticulated with fulvous. The figure however shows the forewings black from base to the central band of yellow spots, with obscured traces of red spots on the costa, the yellow band being suffused with blackish. The hindwings are similar, the basal half black as far as the yellow median spots which, like the forewings, are suffused, three small red spots show in the black area, the outer half more or less normal.
The chief character would appear to be the black basal half of the wings contrasting with the more or less normal outer half.

ab. melanoleuca Cabeau. Lamb. 1932. 32. p. 76. pl. 4. f. 1.
The disc of the forewings upperside invaded by black, leaving only two reddish spots in the cell. The black diminishes towards the margin where the terminal band is yellowish-fulvous, not reddish, forming a contrast. --

description continued next page.

ab.melanoleuca Cabeau (continued.)
The hindwings black from the base, this gradually diminishes towards the margin only a slight elongated reddish spot showing in this black area. The terminal band even less marked than on the forewings, clear pale yellow divided by the black veins, the normal black spots showing up on the pale yellow.
See sketch at end of these notes, underside not figured. The underside of forewings light fawn, the terminal band yellowish. The hindwings basal part light fawn, the outer part greyish. The markings of all four wings reduced to mere traces.

ab.horvathi Aigner. (figured as an aberration of aurinia in error. Lamb. 1939. pl. 4.f.
This form does not belong to aurinia but to M. cinxia. The figure in Lambillionea is obviously a cinxia and the refernce given is also wrong, ab. horvathi being in the. Ent. Z. 19. p. 208., not Int. Ent. Z.

ab.minima Gianelli. Ann. Acc. Agric. Torino. 1890. 33. p. 19.
=nana Rehfous. Cat. Rhop. Gen. 1910. p. 12.
= minor Vorbrodt. Mitt. Schweiz Ent. Ges.. 9. 7. 12. p. 435.
Very small examples.

ab. scotica Kane. (nec Robson). Entom. 1893. 26. p. 187.
This is not the scotica of Robson although Kane apparently used it because Robson had done so earlier. He says that Robson used it under the impression that Birchall had given it to the Scottish race. Kane apparently had not seen Robson's description in the Young Nat. since he describes a quite different form under the same name here, it is not a race but an aberration.
The black areas increased and intense, filling up the basal areas of all wings as far as the discoidal patch on the forewings and to the pale median row of spots on the hindwings, the pale discoidal spot usually being retained and some traces of fulvous on the costa. The outer half of the forewings has the black invading the coloured patches, obliterating some and reducing the size of the rest, the straw-coloured patches duller.
Kane's name, under the new rules placing aberrations in a separate class, can still stand as an aberration, distinct from subsp. scotica Robson. It must be an extremely dark form and certainly not confined to Scotland since after giving Aberdeenshire as the locality then mentions several localities in Ireland and one from Lancashire, it is rather puzzling as to why he thought it was Robson's scotica.

ab. nigromaculata Lempke. Tijdschr. Ent. 1956. 98. p. 337.
On the upperside of the hindwings the yellowish central band is spotted with black.
This form is figured in Lamb. 31. pl. 12. f. 2 as dubia Krul. This is quite wrong, see description of dubia on p. 4 of these notes.

P.T.O.

aurinia Rott. continued.

underside forms.

ab. infraochrea Verity. Farf. Diurn. It. 1950. 4. p. 71.
Underside of hindwings dusted uniformly with ochreous, nearly always associated with a light upperside.

ab. infraflava Verity. Farf. Diurn. It. 1950. 4. p. 71.
Underside of the hindwings dusted uniformly with yellow, nearly always associated with a light upperside.

ab. basiconfluens Lempke. Tijdschr. Ent. 1956. 98. p. 337.
On the underside of the hindwings all basal spots coalesce into one large spot which is separated by a narrow brown band from the yellow central band, except at the inner margin where the yellow areas are connected.

ab. inframaculata Lempke. Tijdschr. Ent. 1956. 98. p. 337.
On the underside of the hindwings there are large black spots in the yellow central band.

ab. tetramelana Cabeau. Lamb. 1931. 31. p. 174.
= nigropunctata Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings the basal area carries four black spots in plac of the normal pale ones.
Caruel's nigropunctata has the light basal spaces black rather than yellow or fulvous, It may apply to one, several, or all. (description from Verity Farf. Diurn. I

ab. sesostris Schultz. Ent. Z. 1906. 19. p. 206. fig.
= demaculata Bubacek. (in part). Verh. zool.-bot. Ges. Wien.
= pauper Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings the basal area is uniformly rust-red, with no spots or very small ones.

ab. ocellata Caruel. Misc. Ent. 1944. 41. p. 10. pl. 1. f. 4.
On the underside of the hindwings, one, two, three or all the light coloured basal spots are ocellated, i. e. with a black point in the centre.

ab. ligata Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings the central basal spot, the 2nd. from the bottom, is united with the light spot inside, and at the end of, the discoidal cell.

ab. commacula Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings one of the light coloured basal spots is united with the central light band by a black-edged yellow stripe.

ab. arcuata Caruel. Misc. Ent. 1944. 41. p. 9.
On the underside of the hindwings the inner marginal light-coloured streak is changed into a series of pointed lobes, their points directed towards the base.

ab. demarginata Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings the light-coloured streak along the inner margi is absent.

aurinia aberrational forms.
Sketches.

ephimelpadia Rev

INDEX

1. Melitaea Fabricius.

athalia Rottemburg. Naturf.1775.6.p.5.

18.

Aberrational forms etc.

athalia
subsp.britanna Verity. Boll. Soc.Ent.It.1913.45.p.210.
The bands wider,more diffused and deep black. See description for further details.

ab.alba Rehfous. Bull. Soc.Lep.Gen.1908.1.p.262.pl.8.f.5.
The ground colour of the upperside pure white with no trace of the normal tint. Underside with a slight trace of fulvous on the veins.

ab.latonigena Spuler. Schmett.Eur.1901.1.p.24.
The ground colour whitish-yellow instead of reddish.
Spuler names this form in athalia when dealing with M.aurelia but stangely enough does not mention it under athalia,probably because he dealt with athalia first.

ab.leucophana Cabeau. Rev.Mens.Soc.Ent.Nam.1912.p.112.pl.3.f.1.
Forewings whitish,slightly yellow. Hindwings normal in colour.

ab.rhodoleuca Stauder. Z.Wiss.Ins.1914.10.p.374.
The parts at the base not fox-red but white yellow. On the forewings this pale colour extends from the base as far as the black central band so that only the two outermost rows of spots remain fox-red. The hindwings are similar.

ab.leucippe Tutt.(nec.Schneider). Ent.Rec.1898.10.p.66.(nom.preoc.Schneider)
♀♀ with yellower ground colour.
Tutt for some reason best known to himself seems to have thought leucippe of Schneider was a pale ground-colour form,despite what he said about it in Brit. Butts.p.305,merely that it had the outermost rows of spots of a different colour. The true leucippe Schnaider is the specimen figured in Esper as maturna. See description later in these notes.

ab.virgata Tutt. Brit.Butts.1896.p.305.
The fulvous spots forming the central band are widened,making a distinct median band of fulvous.

ab.tricolor Hormuzaki Verh.zool.-bot Ges.Wien.1897.p.148.
A form in which the spots are partly orange and partly ochre-yellow,a colour type which appears in other species of Melitaea. On the forewings the median row of spots is orange-red with light yellow centres in front of the costa. The spots on the outside of the median cell and in the darkened basal half,are also dark reddish -yellow,but the spots of the basal inner and outer bands are light reddish-yellow. The first part of this description is taken from Hormazuki's later article in Verh.zool.-bot.Ges.Wien.66.p.407 which appears more simple than the somewhat puzzling original one.

ab.basalis Tutt. Ent.Rec.1898.10.p.66.
♂♂ with a tendency to have dark bases to the wings.

ab.permixta Stauder. Ent.Anz.1922.2.p.33.
On the upperside the broad median band and also the marginal "moons",are very light,those of the female bone white.

ab.obsoleta Tutt. Brit.Butts.1896.p.305.
On the upperside a failure,or partial failure,of the transverse lines,the wings in consequence becoming more fulvous.

ab.parnassiotropa Bryk. Ent.Tidskr.1923.44.p.110.
On the upperside the subcostal line is entirely reduced,the median very much so, and the submarginal strongly or completely absent.
The same as Tutt's obsoleta but since the individual lines are described it may be kept separate.

ab.indigua Cabeau. Rev.Mens.Soc.Ent.Nam.1922.22.p.45.(fig.Lamb.31.pl.6.f.2)
On the upperside of the forewings the submarginal band is effaced and the antemarginal one only feebly marked.

ab.radiata Eisner. Zool.Meded.1942.24.p.120.
On the upperside the patterning is very faint,the marginal band,the submarginal band,and the spots in the cell only remaining but broad black radiations along the veins are prominent. Hindwings more or less normal but also show this pattern o radiation.

ab.corythallia Hubner. Beitr.1790.2.(2).p.51.pl.3.f.5 a & b.(corythalia on plate)
= eos Haworth. Lep.Brit.1803.p.35.
= samonica Reisen. Stett.Ent.Z.1891.52.p.357.
= molpadia Varin. Lamb.1933.33.p.6.pl.2.f.3-4.
The figure in Hubner shows the forewings fulvous with dark base and black costal spot in the cell.There is a thin postmedian line from costa to inner margin and a black marginal band. The hindwings are all black except for a row of fulvous spots in the submarginal area. Underside forewings with black fascia.
Haworth's eos would appear to be the same form - forewings fulvous with some black markings at the base and a black postmedian line. Hindwings black with a row of spots before the margin. Underside with black fascia on forewings.
samonica Reisen has the same description but the underside is normal so could be separated if desired,but genetically is almost certainly the same form.
Varin's molpadia has the forewings fulvous with blackish base and thin postmedian line from costa to inner margin and the hindwings black with a row of fulvous spots before the margin.
The chief character of this form is the lack of the usual bands of black spots on the forewings,with the exact opposite on the hindwings,which are all black except for the marginal fulvous spots.

ab.pyronia Hubner. Samml.Eur.Schmett.1805.1.pl.114.figs.585-588.
An extreme form of the preceding corythallia Hbn.which on the upperside of the forewings lacks the postmedian line seen in corythallia.The figure shows the forewings with dark basal area which encloses two or three spots of fulvous.The rest of the wing has no markings except a thin marginal line with its fulvous lunules.,the veins slightly dusted with black giving a somewhat rayed effect. Hindwing upperside blackish-brown with some trace of fulvous spots in the basal area and a row of fulvous spots before the margin. Underside of the forewings with the basal half deep black,the outer half fulvous with a thin maginal line. Hindwings underside with deep black median band and black basal spots which are confluent and join up with the median band,there is no yellowish-white between them.The outer part of the wing is mostly yellowish-white through the narrowing of the reddish submarginal band.
Genetically probably the same as corythallia.

ab.illyrica Stauder. Ent.Z.1914.28.p.68.
Upperside of forewings like corythallia Hbn.,dark only at the base,otherwise without transverse lines except an outer marginal band. Hindwings uniformly black with a row of spots before the margin. Differs however on the underside of hindwings,the basal half melanic but the whole of the remaining area whitish-yellow with a hardly visible marginal line. Forewings almost unicolorously pale brown.

ab.caucasica Ruhl.in Staudinger Cat.Lep.1871.Ed.2.p.19.
Hindwings almost all black.
The forewings are not mentioned so presumably are normal.

f.2.
ab.leucippe. Schneider. Beitr.Eur.Schmett.1785.1.p.209.(fig.Esp.Eur.Schmett.1.pl.30
Name given to the figure in Esper Eur.Schmett.vol.1.pl.XX f.2. which shows the basal half of the upperside of the forewings almost blacked-in.Of the fulvous ground colour there remains two blotches near the costa,which is black,and a thin spot just above the inner margin. The outer half is more or less normal. Hindwings completely black in the basal half,the outer half with the row of red submarginal spots large and conspicuous,contrasting with the yellowish marginal and median chains of spots.
There seems a lot of confusion over this form.Tutt in his Brit.Butts.merely stresses the difference in colour of the rows of marginal spots which was probably only enhanced by the artist.Again Tutt,in Ent.Rec.10.p.66,gives a totally different description form his earlier,one saying that leucippe is the name for females with yellower ground colour.This had caused Lempke to make Tutt the author of leucippe(nec Schneider) which cannot stand if Schneider's leucippe is an athalia.The figure in Esper appears to be a definite aberration of athalia but there is no mention of it in Seitz and other works.

ab.atrovittata Turati. Bull.Soc.Ent.It.1910.42.p.209.
= fasciata Vorbrodt. Schmett.Schweiz. 1914.2.p.610.(descrpt.vol.1.p.455)
= mirefasciata Cabeau. Rev.Mens.Soc.Ent.Nam.1923.23.p.56.(fig.Lamb.31.pl.3.f.10)
Forewings upperside with a broad black band replacing the usual "S" mark in the median area,standing out from the rest of the markings.
Vorbrodt's fasciata had a broad black median band on forewings.
Cabeau's mirefasciata had the postmedian band broad and distinct dividing the wing into two parts. The figure shows it to be what most authors would call the median band,not the postmedian.

ab.aterrimevittata Verity. Boll.Lab.Zool.Portici.1920.14.p.61.
Forewings with a black median band so broad that it fills a quarter of the wing. the three thin bands on the outside of it are not fused with it but the nearest one is pushed outwards towards the margin.
This would seem to be more extreme than the preceding banded forms.

ab.bifasciata Reverdin. Bull.Soc.Lep.Gen.1914.3.p.35.pl.3.f.2.
Forewings upperside with two black bands,a broad one and a somewhat narrower basal one.The broad central oneis caused by the space between the two central costal blotches being filled in and this black continues as a broad band down to the inner margin.The second band is near the base and caused by the blacking-in of the two transverse lines nearest the base. The figure shows these band in jet-black,not just darkish brown as seen in many examples,there is a faint spot of ground colour between the joined-up costal blotches.

ab.interligata Derenne. Lamb.1926.26.p.91.
On the upperside of the forewings the two black spots just above the inner margin in the median area are united into a streak.
This form is also found in cinxia and according to the author,aurinia.Also in some of the Argynnis species.

ab.transversa Tutt. Ent.Rec.1898.10.p.66.
On the upperside of the forewings the two black lines in the median area unite in the lower part of the wing to form a band.
This is quite a common form which shows a square black blotch just above the inner margin in the centre of the wing.

ab. tectensis Cabeau. Rev. Mens. Soc. Ent. Nam. 1922. 22. p. 41. (fig. Lamb. 31. pl. 3. f. 9.)
The figure shows the basal half of the upperside of the forewings black with one or two small spots of fulvous enclosed. The only markings on the outer half are a rather broad black line or band in the postmedian region, and a black marginal line or band, thus there are only two lines instead of the normal three. The veins are heavily blackened giving a rayed effect to the wings. Hindwings black with a submarginal row of fulvous spots cut by the blackened nervures. Underside of the hindwings with the basal portion fulvous bordered by black and carrying four large black spots which replace the typical pale yellow ones.

ab. pseudodictynna Stauder. Ent. Anz. 1922. 2. p. 31.
On the upperside of the forewings the black patterning is heavier, the basal and median parts often fusing to form broad bands, the submarginal usually 3mm. broad. The fulvous spots are sharply defined, rectangular, in the outer parts square, as in dictynna. Hindwings with dark basal area and broad black margins and only a broader row of light coloured spots before the margins.
Stauder says he does not know if this is a race or not, it is probably not found among our English populations.

ab. aphaea Hubner. Samml. Eur. Schmett. 1805. 1. pl. 147. f. 738-9.
The figure shows on the upperside of the forewings a broad black transverse band in the postmedian area, not in the median area, where this character is usually found. The median band is broken up into three black blotches and at the base there are three more. It would appear that the fulvous between the median line and the post-median is replaced by black, followed outwardly by a band of fulvous, and finally by the black margin itself. It must be a very unusual form. The hindwings show a black basal half in which there is a large crescent shaped patch of fulvous ground colour, and a broad fulvous submarginal band which continues from the broad similar band on the forewings. See sketch at end of these notes.

ab. nigrathalia Johnstone. Entom. 1944. 77. p. 30.
Forewings upperside all black except for small tawny spots forming a vertical line in the centre of the wings. Hindwings completely black.

ab. cymathoe Bertolini. Ann. Storia nat. Bologna. 1829. 2. p. 237-240.
= navarina de Selys. Cat. Lep. Belg. 1837. p. 19. (fig. Tijdschr. Ent. 42. pl. 2. f. 3.)
= jelineki Joukl. Acta Soc. Ent. Bohem. 1908. 5. p. 25.. p. 26 figured.
Forewings upperside black with a submarginal row of fulvous lunules. Hindwings also black with a similar row of fulvous spots.
This form has been known for many years as ab. navarina but Verity states that the Type of cymathoe Bertolini is in his possession and that it is the same as navarina and has priority over it.
Joukl's jelineki had the upperside completely brown with an anteterminal series of fawn spots. Some authors say "black" some "brown", according to fading.

ab. asteriades de Selys. Ann. Soc. Ent. Belg. 1857. 1. p. 19.
Very small and very black.
The description is hardly sufficient to be of use.

ab. dorfmeisteri Hellweger. Gross. Schmett. N. Tyrol. 1911. p. 33.
All the pattern of the upperside very feeble so that the markings appear light grey wood colour, lighter than the ground. The underside is less different, the usual black pattern being coffee-brown.

ab.phyciodina Hormuzaki. Verh.zool.-bot.Ges.Wien.1916.66.p.407.(ppyciodina in text)
Upperside of the hindwings dark brown,there only remains the usual indistinct innermost band,of the normal three yellow-brown bands of spots,thus only a single pale middle band is seen. On the forewings beside the yellow-brown spots in the middle cell,there only remains a strongly interrupted band of similar yellow-brown indistinct spots which extend from the costa in the form of a curve round the middle cell,so that the pattern appears as in Ar.prorsa and numerous other Nymphalidae and the South American Phyciodes.

ab.charlotta Rebel. Verh.zool.-bot.Ges.Wien.1913.63.p.(32).
This form was described under M.aurelia and should not be included under athalia. Verity in his Farf.Diurn.It. does so.

ab.leucophryne Gaede. Seitz.Macrolep.1931.1.Suppl.p.348.
This form was described under M.cynthia by Schawerda in Verh.zool.-bot.Ges.Wien. 1924-25.74-75.p.(67).and it should not be included under athalia. Verity in his Farf.Diurn It.argues that since it is published under athalia in Seitz Macrolep. it becomes a form of athalia. The form however may not occur in athalia,so should be dropped.

ab.nigromarginata Lempke. Tijdschr.Ent.1955.98.p.344.
On the hindwings upperside before the margin there is a broad black band from the fringes to the subterminal line.

ab.punctifera Verity. Bull.Soc.Ent.It.1913.45.p.209.
On the upperside of the hindwings the black line which borders the extremity of the cell is broken up into circular dots or spots.

ab.evittata Verity. Bull.Soc.Ent.It.1916.48.p.187.
On the upperside of the forewings the black median band of ab.atrovittata Turati is entirely missing with the exception of two or three small black spots.
The underside of the hindwings is similar to ab,nigropunctata Caruel,having the silvery basal spaces replaced by small black spots.

ab.berisaliformis Verity. Bull.Soc.Ent.It.1916.48.p.186.
On the upperside the margins are dark, the normal fulvous lunules being almost absent.
Similar in appearance to <u>berisali</u> Rühl, which was originally described as an aberration of the present species, but has since been proved to be a subspecies of <u>M.dejone</u>.

athalia Rott. continued.

underside forms.

ab. subtusnigrescens Caruel. Misc. Ent. 1944. 41. p. 9. pl. 1. f. 2.
On the underside of the hindwings the light basal markings are surrounded by brownish-black dusting.

ab. nigropunctata Caruel. Misc. Ent. 1944. 41. p. 8. pl. 1. f. 1.
On the underside of the hindwings the basal area shows one, two, or more black spots

ab. spadana Cabeau. Rev. Mens. Soc. Ent. Nam. 1922. 22. p. 43. (fig. Lamb. 31. pl. 4. f. 5.)
On the underside of the hindwings the basal area is fulvous bordered externally wi with black. At the base itself there are two small black points and in the middle of the cell a third black spot, larger and pupilled with yellow. The rest of the wing pale yellow with an incomplete postmedian band and a broad submarginal fulvous band, regular and powdered with black, and finally a narrow marginal band of typical yellow. Upperside normal.

ab. sohana Cabeau. Rev. Mens. Soc. Ent. Nam. 1922. 22. p. 42. (fig. Lamb. 31. pl. 4. f. 4)
Underside of the hindwings with the basal area fawn bordered with black and with a single black spot in the cell. The rest of the wing pale yellow with a fawn antemarginal band which is not bordered with black, and with the typical pale fawn narrow marginal band surmounted interiorly with black triangular interneural spots.

ab. commacula Caruel. Misc. Ent. 1944. 41. p. 10. pl. 1. f. 9.
On the underside of the hindwings there is a fusion of one of the light basal spaces with the light central band space.

ab. ligata Caruel. Misc. Ent. 1944. 41. p. 9.
On the underside of the hindwings the light central space (or spot) in the interior of the cell, is fused with the central light basal spot.

ab. tessellata Stephens. Ill. Haust. 1928. 1. p. 31. pl. 5. f. 1-2.
The figure shows the underside of the hindwings yellow with no cream or white markings. The basal spots are aberrant, three of them being united thus- with a fourth spot below them as shown. The usual cream median band has its dividing line right through its centre and is bright yellow compared with the rest of the wing which is dusky yellow. The marginal moons are bright yellow and all nervures black and the median yellow band is edged with black.
This was copied by Stephens from one of Petiver's figures in Papiliones Britanniae These are somewaht inexact and whether or not such a form exists is open to doubt.

ab. hertha Quensel. K. Svenska Vetensk Akad. Handl. 1791. 12. p. 280. figs. 9-10.
Underside of the forewings with longitudinal fuscous stripes.

ab. csikii Aigner. Ann. Mus. Nat. Hungary. 1906. 4. p. 496. pl. 13. f. 5.
Underside of the forewings with black streaks in the median area divided by the veins and two or three marginal streaks towards the apex. Hindwings similar but with rather thicker rays at the margins and with no white fascia.

athalia Rott. continued.
underside forms .

ab. cinnamomea Vorbrodt & Muller-Rutz. Mitt. Schweiz Ent. Ges. 1917. 12. p. 436.
On the underside of the hindwings the margins are broadly coppery.

ab. pseudaurelia Ebert. Iris. 1926. 40. p. 30.
On the underside of the hindwings the narrow space between the thin black marginal lines is considerably darker than the marginal moons in front of it.

ab. nigriornea Lempke. Tijdschr. Ent. 1955. 98. p. 344.
On the underside of the hindwings the central band is bordered on both sides by a thick black line.

ab. postfuscofasciata Goodson. Ent. Gaz. 1960. 11. p. 18.
On the underside of the hindwings the colour of the prominent yellowish-white median band is replaced by leaden grey, leaving only a thin edging of normal colour on each side.

ab. unifasciata Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings the light median band is not divided by a line or by black spots.

ab. demarginata Caruel. Misc. Ent. 1944. 41. p. 8.
On the underside of the hindwings the light streak on the inner margin has disappear-ed.

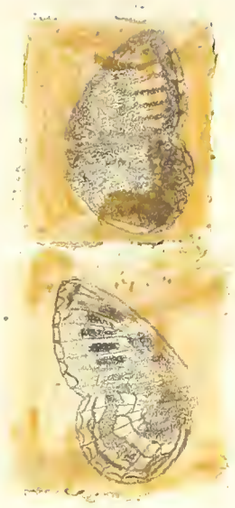
ab. semiradiata Turati. Bull. Soc. Ent. It. 1911. 43. p. 232.
On the underside of the hindwings the extreme anal cell is quite devoid of markings or radiation for the whole of its length, as far as the base of the wing.

ab. flavoelongata Caruel. Misc. Ent. 1944. 41. p. 10. pl. 1. f. 10.
On the underside of the hindwings one or several interneural spaces are completely fulvous or yellow, from the base of the wing as far as the black line which precedes the submarginal band.

ab. fennica Reuter. Macrolep. Finland. 1893. p. 14.
Underside of the hindwings uniformly fulvous as far as the median band, the basal spot being almost absent. On the upperside the wings are more conspicuously bordered with black and the black transverse bands of the forewings are narrower.
This would seem to be primarily an underside form.

ab. hisopa de Selys. Mem. Soc. Sci. Liege. 1845. p. 19. (Ann. Soc. Ent. Belg. 1. p. 19. & 178)
Underside of the hindwings almost white. The upperside fulvous with slight reticulations.

Lithalia Lott. figures.



Lithalia jelineki Lukl.
(upper & underside)

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cinxia Linnaeus. Syst. Nat. 1758. x. p. 480.

aberrational forms etc.

ab. deficiens Cabeau. Rev. Mens. Soc. Ent. Nam. 1922. 22. p. 45. (fig. Lamb. 31. pl. 3. f. 8.)
On the upperside of the forewings the postmedian line is obliterated. The hindwings are similar.

ab. gracilens Pionneau. Misc. Ent. 1932. 34. p. 27.
The black bands in the discal and postdiscal areas on the upperside of the forewings are very much reduced.

ab. fulla Quensel. K. Vet. Ac. N. Handl.. 1791. p. 279.
On the upperside of the forewings the black markings are reduced in the outer half. (original description not seen)

ab. uhryki Aigner. Rov. Lapok. 1905. 12. p. 14. (Ent. Z. 1906. 19. p. 207).
Upperside of the forewings almost without pattern, only some black spots in the basal area, a small black mark at the apex and a black spot at the inner angle. Hindwings with the basal area much darker than usual, the "eye" bands very broad but the eyes t themselves not bordered. The margins of all wings are black.

ab. obsoleta Tutt. Brit. Butts. 1896. p. 311..
An obsolescence of the black of the upperside, hence an increase in the fulvous-brown ground colour.

ab. matisconensis Audre. Tab. anal. Lep. Fr., Suisse, Belg. 1899. p. 53.
= diniensis Wheeler. Butts, Switz. 1903. p. 85.
= impunctata Osthelder. Schmett. Sudbayern. 1926. 1. p. 85.
On the upperside the red-brown marginal band of the hindwings is not ocellated.

ab. interligata Cabeau. Lamb. 1926. 26. p. 91.
The two lowest spots of the median band of the forewings are connected just above the inner margin in a short streak.

ab. suffusa Tutt. Brit. Butts. 1896. p. 310.
An increase in the black markings of the upperside and consequent decrease in the fulvous-brown ground colour.

ab. obscurior Seitz. (Staudinger in litt.) Seitz Macrolep. 1909. 1. p. 215. pl. 65. f. row f.
Very dark specimens in which the red-brown of the hindwings has almost disappeared. The figure shows a darkish dusting, the markings normal.

ab. semiobscura Pionneau. Misc. Ent. 1932. 34. p. 27.
The hindwings on the upperside amply dusted with black.
Presumably the forewings are normal.

ab. ocelliformis Reuss. Int. Ent. Z. 1921. 15. p. 4.
The hindwings on the upperside show a transitory or complete formation of ocelli in the submarginal band.
Reuss presumably means that the little blackpoints of this band are enclosed in circles of blackish-brown to form "eyes". Most specimens show a tendency towards this so the form is hardly worth separating.

cinxia Linn. continued.

ab. transversa Reuss. Int. Ent. Z. 1921. 15. p. 4.
Upperside of the forewings with an isolated black band in the discal area.

ab. salzlii Lanz. Rebel in Berge's Schmett. 1910. p. 25.
Upperside with a strong increase in black pattern so that the ground colour is isolated into small spots.
I cannot find any original refernce to this form.

ab. horvathi Aigner. Rov. Lapok. 1905. 12. p. 14. (and Ent. Z. 1906. 19. p. 208)
(fig. Ann. Mus. Nat. Hung. 4. p. 491.)
The figure shows the forewings strongly suffused with blackish, only a chain of fulvous spots remain before the margin and three costal spots. The other normal markings can be faintly seen beneath the black dusting. Hindwings similarly blackish, with a chain of ocellated fulvous spots before the margin and clearly defined.

ab. cernyi Joukl. Acta. Soc. Ent. Bohem. 1908. 5. p. 96.
Forewings dark brown, with a very broad red-yellow transverse band at the margin, interrupted by the black-brown veins, very narrow at the costa and reaching its broadest point between the two cubital veins Cu_1 and Cu_2. All other red-yellow markings, with the exception of three very small red-brown spots in the discoidal area, fail completely. Upperside of hindwings normal. Fringes yellow-white. Similar but not identical with ab. horvathi Aigner.
Differs completely from the preceding ab. horvathi by the normal hindwings.

ab. brenthis Reuss. Int. Ent. Z. 1921. 15. p. 5.
Upperside of forewings all black except for two red costal spots and a submarginal chain of small reddish spots and three other small spots in the discal area in front of this chain. Hindwings with the basal half darker than usual, the rest normal.
Similar melanic form to the preceding.

ab. mocsaryi Aigner. Rov. Lapok. 1905. 12. p. 14. (and Ent. Z. 1906. 19. p. 208.)
Upperside of the forewings with the whole patterning fused and all the black united into one large area in the median field, the base black, a few fulvous spots along the costa. Hindwings almost quite black but in the centre towards the costa some fulvous is visible. The "eye" band is narrow and there are broad black margins to all wings. On the underside the black pattern is very heavy.

ab. gergovia Fruhstorfer. Soc. Ent. 1918. 33. p. 42.
On the upperside the forewings are extensively dusted with green, the hindwings wholly so.

ab. leucophana Cabeau. Rev. Mens. Soc. Ent. Nam. 1919. 19. p. 61.
Upperside of the forewings white with a yellowish tinge, the hindwings fulvous.

ab. pallida Tutt. Brit. Butts. 1896. p. 311.
= pallidior Oberthur. Lep. Comp. 1909. 3. p. 234.
Upperside with the ground colour pallid but the markings strongly developed and encroaching on the pale areas. It bears some analogy to A. paphia ab. valesina and A. agla ia ab. pallida, in all three there is an increase in the black markings simultaneously with a decrease in the depth of the ground colour.
Oberthur's pallidior was from the French Alps but is almost certainly only an aberration.

cinxia Linn. continued.

cinxia Linn. continued.

underside forms

ab. bifasciata Hartig. Ent. Rundsch. 1924. 41. p. 42.
Underside of the hindwings with the cellular spots of the median band duplicated so that a double row of spots is formed. The black cellular spots in the margin are reduced and in their place remain only a few transverse streaks.

ab. paucimaculata Cockerell. Entom. 1899. 22. p. 99. (from Newman Brit. Butts. p. 43)
Underside of the hindwings with only two black spots remaining of the chain of spots normally seen in the white median band.
The description is that of the figure in Newman, presumably the third specimen on page 43. It is transitional to the next form expuncta Cabeau.

ab. expuncta Cabeau. Rev. Mens. Soc. Ent. Nam. 1926. 26. p. 75.
= unifasciata Caruel. Misc. Ent. 1944. 41. p. 8.
Underside of the hindwings with the white median band showing no spots (pattern).

ab. jubilaris Cabeau. Lamb. 1930. 30. p. 122. (fig. Lamb. 31. pl. 2. f. 6.
Underside of the hindwings with the black dots of the white median band thick or broad, and forming an almost continuous line.
The figure shows the spots replaced by short horizontal wedge-shaped streaks, from costa down to the inner margin

ab. subtusmarcata Reuss. Int. Ent. Z. 1921. 15. p. 4.
The black pattern of the bands of the hindwings, especially on the underside, is increased.

ab. wittei Geest. Allg. Zts. fur Ent. 1903. 8. p. 308. fig. p. 310. f. 3.
On the underside of the hindwings all black markings are very broad, the two black wavy lines in the middle of the wing united into a band of large black spots.
Underside of forewings with markings only at the apex.
See figure at end of these notes.

ab. semijubilaris Langer. Flora og Fauna 1956. 62. p. 44. (fig. 1944. p. 134 & 1954. p. 28)
On the underside of the hindwings in the discocellular white band there are thick black spots which are clearly separated.
Transitional to ab. jubilaris Cabeau.

ab. interrupta Skala. Ent. Z. 1907. 20. p. 311. pl. 4. f. 7. (under didyma Ochs.)
Underside of the hindwings with the red-yellow band, near the base, broken in many places.
The figure is of the same form in M. didyma and shows this band reduced to separated spots of reddish-yellow. Skala says the aberration also occurs in cinxia so the name is valid.

The following names were given by Caruel as "Collective" for the Genus Melitaea bu in my opinion are only valid if a species name is given. Caruel does not say he has found any of them in cinxia so they are hypothetical. They are given here in case there is some doubt.

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ab. flavoelongata Caruel. Misc. Ent. 4I. p. 8 I944.
On the underside of the hindwing one or several interneural areas completely fulvous or yellow from base of wing as far as the black line which precedes the submarginal band.
Collective name for the genus Melitaea but cinxia not specifically mentioned.

ab. demarginata Caruel. Misc. Ent. 4I. p. 8 I944.
On the underside of the hindwing the light streak on the inner margin has disappeared
Collective name for the genus Melitaea but cinxia not specifically mentioned.

ab. arcuata Caruel. Misc. Ent. 4I p. 8 I944.
On the underside of the hindwing the light streak on the inner margin is changed into a series of pointed lobes, the points directed towards the base of the wing.
Collective name for the genus Melitaea but cinxia not specifically mentioned.
It is doubtful if the above collective names are valid when the specific name is not mentioned.

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ab. commacula Caruel. Misc. Ent. 4I p. 8 I944.
Underside of the hindwing showing a fusion of one of the light basal spaces with the central light space.
Collective name for the Genus Melitaea but cinxia not specifically mentioned.

ab. ligata Caruel. Misc. Ent. 4I p. 8 I944.
On the underside of the hindwing the light central space in the interior of the ~~disc~~ discoidal cell is merged with that of the central basal.
Collective name for the genus Melitaea but cinxia not specifically mentioned.

ab. ocellata Caruel. Misc. Ent. 4I p. 8 I944.
On the underside of the hindwing one, two or all the light basal spaces are ocellated i. e. -with a black point in the light space.
Collective name for the genus Melitaea but cinxia type form already has black points so the name can hardly apply.

ab. pauper Caruel. Misc. Ent. 4I p. 8. I944.
On the underside of the hindwing the light basal spaces have entirely or in part disappeared.
Collective name for the genus Melitaea but cinxia not specifically mentioned.

ab. subtus-nigrescens Caruel. Misc. Ent. 4I p. 8 I944.
On the underside of the hindwing the light basal markings are surrounded by brownish black dusting on the yellow or fulvous spaces.
Collective name for the genus Melitaea but cinxia not specifically mentioned.

ab. nigropunctata Caruel. Misc. Ent. 4I p. 8 I944.
On the underside of the hindwing one, two, several or all of the light basal spaces are black rather than yellow or fulvous.
Collective name for the genus Melitaea with cinxia specifically mentioned.

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cinxia Linn. figures.

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1. Vanessa Fabricius.

atalanta Linnaeus. Syst. Nat. 1758. 10. p. 475.

aberrational forms etc.

ab. millierei Cabeau. Rev. Mens. Soc. Ent. Nam. 1923. 23. p. 14.
The red bands replaced by white.

ab. flavescens Fritsch. Ent. Rundsch. 1913. 30. p. 26.
= flava Eitel. Int. Ent. Z. 1924. 18. p. 141.
= testacea Pionneau. Bull. Soc. Sci. Nat. Ouest. 1924. 4. (4). p. 59.
The red bands replaced by straw yellow.
Eitel's flava had the bands dull yellow, the colour of the border of antiopa.
Pionneau's testacea had tawny yellow bands.
One can hardly separate these tones of yellow.

ab. eos Fritsch. Ent. Rundsch. 1913. 30. p. 25.
The red bands replaced by orange-cinnabar.

ab. rosea Reuss. Ent. Rec. 1910. 22. p. 88.
= rosea Pionneau (in error) Gaede in Seitz Macrolep. 1930. 1. p. 199.
The normally red bands of a beautiful rose-colour on a deep black ground. The bands shaded with white near the costa of the forewings and interrupted with black in the median part. Blotches in the apex of the forewings pure white and whitish scales seem mixed up with the black ones of the ground colour making it seem abnormally transparent when held against the light (the rosy bands then seeming almost mauve). Near the inner margin and close to the bright band there is a whitish blotch or suffusion. On the hindwings one of the median ocelli is white centred on the upperside.
Gaede in Seitz quite wrongly includes a "rosea Pionneau" in atalanta. Pionneau described rosea under cardui and says the forewings are rosy, Gaede also gives a wrong description in saying that the bands are bright red.

ab. ochrobrunnea Fritsch. Ent. Rundsch. 1913. 30. p. 25.
The red bands replaced by ochre-brown.

ab. rubra Fritsch. Ent. Rundsch. 1913. 30. p. 25.
The normally cinnabar-red bands replaced by dull red or carmine-red.

ab. edwardsi Grinnell. Psyche. 1918. 25. p. 113. pl. 4. f. 3.
The band of the forewings is apricot-orange instead of red and the costo-apical white patch is salmon-buff. There are four normal white apical spots. On the hindwing the marginal band is apricot-orange. The basal parts of both fore and hindwings are Bordeaux-red instead of black.

ab. pallida Fritsch. Ent. Rundsch. 1913. 30. p. 25.
The ground colour grey black, with the bands whitish-brownish or isabel, therefore quite light.

ab. umbrosa Fischer. Soc. Ent. 1908. 23. p. 130.
The red bands of the forewings thickly dusted with black so that only a dark wine-brown shimmers through. Hindwings as in ab. merrifieldi Standfuss but not darkened.
The figure of merrifieldi shows the hindwings with blue spots in the red band instead of black ones, and some blue spots preceding, and touching, the red band.

ab. fracta Tutt. Brit. Butts. 1896. p. 355.
The red band of the forewings is divided in the centre by black scaling which extends along the nervures.

ab. bialbata Cabeau. Rev. Mens. Soc. Ent. Nam. 1911. 11. p. 22.
= bipunctata Gussich. Glasnik Hrvats. Prirodosl. Drustva. 1917. 29. p. 214.
= septiespupillata Verity. Ent. Rec. 1919. 31. p. 198.
= albimaculata Pruffer. Bull. Acad. Pol. Sci. Lettres 1920. p. 218.
= albipunctata Ragusa. Nat. Sic. 1920. 23. p. 144.
= martha Stephan. Iris. 1923. 37. p. 36.
The red band of the forewings showing a white spot.
Verity counts this spot in with the white submarginal ones, to make seven in all. He says that it only applies to ♂♂ since the females usually have it and males do not. This is not so in England.

ab. sexiespupillata Verity. Ent. Rec. 1919. 31. p. 198.
Verity gives this name to exceptional females without a white spot in the red band, leaving only the six white submarginal ones.
Females without this white spot are not exceptional in my opinion and since Linnaeus did not mention a white spot in the red band the name is merely a synonym of the type form.

ab. ocellata Stammeshaus. Ent. Ber. (Amst.). 1954. 15. p. 271.
The red band of the forewings showing a white spot, but surrounded by black.

ab. angustifasciata Lempke. Tijdschr. Ent. 1956. 99. p. 192.
The red band of the forewings is distinctly narrowed.
Gaede in Seitz Macrolep. 1 p. 199 mentions an ab. angustata Stgr. in error. This form belonged to N. antiopa.

ab. parisiensis Girard. Ann. Soc. Ent. Fr. 1866. Series 4. vol. 6. p. 568. (fig. vol. 7. pl. 7. f. 6)
= cyclops Stichel. Seitz Macrolep. 1909. 1. p. 198. (fig. Standf. Handbuch 1896. pl. 7. f. 7)
= aestiva Reuss. Entom. 1910. 43. p. 303.
The figure shows the forewings with the apical area, between the white spots and the margin, well dusted with reddish scales, and the bases of all wings dusted similarly with reddish.
The figure of cyclops is similar but has one or two additional characters, the red band of the forewings being strongly widened and in the cell near the costa there is a projection which encloses a double black spot.
Reuss's aestiva had a red suffusion at the apex and base of the forewings.

ab. klymene Fischer. Neue Exper. Unters Vanessa. 1896. pl. 57. f. 6b.
On the forewings the main white costal spot is completely absent. In the apical submarginal area there is a series of six large somewhat elongated white spots in place of the normal row of uneven large and small ones. The hindwings have the spots in the red band very faint.

ab. klemensiewiczi Schille. Spraw. Kom. Fizyogr. 1896. 30. (2). p. 217.
= albo-punctura Frohawk. Vars. Brit. Butts. 1938. p. 87. pl. 20. f. 1-2.
The main costal white spot of the forewings reduced and somewhat obscured and the two lowest white spots of the apical submarginal chain very much enlarged, the bottom one being more than twice normal size, the two together forming a large squarish white blotch. Beneath this, in the red band, is a small white spot. Hindwings showing a small white spot near the costa slightly inwards from the red band. The red band has no black spots.
I have not seen the original description, various authors give figures, sometimes without the white spot on the hindwings. See Berge's Schmett. pl. 53. f. 15.

ab. flavomaculata Lempke. Ent. Ber. (Amst.). 1939. 10. p. 120.
The normally white spots of the forewings are yellow or yellowish.

ab. de-walshei Derenne. Lamb. 1926. 26. p. 90. (fig. Lamb. 33. pl. 7. f. 4.)
The normally white spots of the forewings are blackish-brown green, excessively sombre and almost the same as the ground colour, although the pattern of them can be seen. The red bands are normal.

ab. merrifieldi Standfuss. Ent. Z. 1895. 9. p. 90. (fig. Standf. Pal. Gross. pl. 7. f8.)
The figure shows the red band of the forewings somewhat obscured with black dusting. The main white costal spot much enlarged and suffused, with a white streak running from it down to the red band along the costal vein, and a prominent white spot in the red band. Hindwings with blue spots replacing the black ones in the red marginal band and small blue streaks on the inner edge of the band running into the black ground in small wedges.
The description is carried on from Ent. Z. 8. p. 101. The blue spots in the red band, prominent in the figure, are said to be only "dusted" with blue.

ab. turcica Wize. Roczn. Towarz. Przyj. Nauk. Pozn. 1917. 44. p. 5.
= leliva Wize. Pozn. Towarz. Przyj. Nauk. Prace Kom. Matem.-przyr. 1922. B. 1. p. 261.
On the upperside of the forewings, outside the uppermost white spot, there is a little white dot, so as to produce a figure reminiscent of the Turkish Crescent and Star.

ab. sordida Fritsch. Ent. Rundsch. 1913. 30. p. 26.
On the hindwings the ocelli along the red marginal band are very prominent in the form of distorted black half moons. The ground colour of all wings is blackish-grey instead of velvety black.

ab. weingartneriae Tronicek. Acta Ent. Mus. Nat. Prague 1949. 26. Sep. p. 10.
On the hindwings the normally round or wedge-shaped black spots in the red band are elongated and rectangular, appearing as lines.

ab. cabeauensis Lambillion. Rev. Mens. Soc. Ent. Nam. 1903. pt. 5. p. 22.
On the hindwings the red band contains no black spots and the elongated bluish spot is also absent.. On the forewings the two lower white spots of the submarginal row are bordered with blue, the larger one on both sides, the smaller one on its outer side only.

ab. virescens Groenendijk. Ent. Ber. (Amst.). 1966. 26. p. 22.
On the hindwings the double spot near the anal angle is greenish-blue instead of the normal blue.

ab. largomarginata Groenendijk. Ent. Ber. (Amst.) 1966. 26. p. 22.
On the hindwings the red band is distinctly broader than usual.

atalanta Linn. continued.

ab.caerulocellata Lempke. Tijdschr.Ent.1956.99.p.193.
On the hindwings one or more of the black spots in the red band are blue-centred.

ab.merrifieldoides Reuss. Entom.1910.43.p.303.
= octocyanea Cabeau. Rev.Mens.Soc.Ent.Nam.1911.p.23.
=.cyanosticta Fritsch. Ent.Rundsch.1913.30.p.26.
On the hindwings there are blue-centred ocelli in front of the red band.
Cabeau's octocyanea had four little blue spots,1 mm.in size,if front of the red band.
Fritsch's cyanosticta had small blue spots before the red band.

ab.reducta Lempke. Tijdschr.Ent.1956.99.p.193.
Forewings with less than five white spots in the row near the apex.

ab.fuscescens Lempke. Tijdschr.Ent.1956.99.p.191.
Ground colour of the upperside of the wings brown-black; on the inside(basewards) of the red band of the forewings a thick black line and on the inside of the hindwings red band black spots.

ab.nana Schultz. Ent.Z.1905.19.p.67.
= atlantoides Lambillion. Rev.Mens.Soc.Ent.Nam.1911.p.91.
= minutior Verity. Ent.Rec.1924.36.Suppl.p.(42).
Small dwarfed examples . 38mm.- 50mm.
Lamillions atlantoides was 40mm.

ab.hyensis Lambillion. Rev.Mens.Soc.Ent.Nam.1913.p.126.
On the underside of the forewings the apex,and middle of marginal area of the hindwings,are yellowish.

ab.infranigrans Lempke. Tijdschr.Ent.1956.99.p.192.
Underside of the hindwings nearly unicolorous blackish,the yellow costal spot,for the greater part,dusted with black.

atalanta Linn. Figures.

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Vanessa Fabricius.

cardui Linnaeus. Syst. Nat. 1758 I. p. 475.

aberrational forms etc.

ab. huntera Lowe. Ent. Rec. 1902. 14. p. 333.
= carnea Fritsch. Ent. Rundsch. 1912. 29. p. 136.
= rosacea Reuss. Int. Ent. Z. 1916. 9. p. 131.:
"Beautifully flushed with pink."
carnea was "light brownish flesh-rose", all colouring lighter.
Reuss described his rosacea as being of a beautiful pink, the colour being deepened in the area of the first costal spot to a shining red.

ab. rosea Pionneau. Echange 1926. no. 423. p. 4.
Forewings entirely rosy-red, much accentuated. Hindwings very bright fulvous.
Gaede in Seitz Macrolep. 1. p. 199 wrongly includes this form in atalanta.

ab. ochracea Reuss. Soc. Ent. 1918. 33. p. 41 footnote 3.
The ground colour of the upperside without any trace of rose.- yellow-brown or ochreous.

ab. pallida Schoyen. Tromso Mus. Aarsh. 1881. 4. p. 77.
The ground colour of the upperside very pale reddish-yellow.
From a description by Lempke, I have not seen the original.

ab. pallens Noel. Feuille Jeun. Nat. 1881. 9. p. 102.
The ground colour of the upperside completely white, the markings normal.

ab. carduelis Cramer. Pap. Exotica 1775. 1. p. 40. pl. 26. f. e & f. (see Ent. Rec. 31. p. 198)
Verity proposes that this name should be revived for the "largest, brightest and most vigorous cardui". It would seem to be somewhat unnecessary but is included here for what it is worth.

ab. ? universa Verity. Ent. Rec. 1919. 31. p. 197.
Verity in a somewhat mixed article says that the cardui in the north (Scandinavia) are different from the rest of the world, with the black pattern more extensive, these are the nymotypical race described by Linnaeus. Those from the "rest of the world" have the black pattern lesser in extent and not confluent, and the underside is grey to ochreous-yellow. These should be called race universa.
Verity then goes on to say that cardui does not produce true geographical races and individual variation is very great. (The name may be used as an aberrational one if necessary but the description is hardly definite enough even for this.)

ab. ? inops Verity. Ent. Rec. 1919. 31. p. 198.
The wings pale ochreous, the black pattern less extensive. The common form.
Verity calls this a "race-like gradation". It would not appear to be racial at all and best not used even as an aberrational form.

ab. infranigrans Verity.	Ent. Rec. 1919. 31. p. 198.				
ab. infragrisea Verity.	"	"	"	"	nomen nudum
ab. infraochrea Verity.	"	"	"	"	no descriptions
ab. infraflava Verity.	"	"	"	"	
ab. infrabrunnea Verity.	"	"	"	"	

cardui Linn. continued.

ab.albicans Verity.(nom.nov.pro carduelis Schultz.)Farf.Diurn.It.1950.4.p.331.
= carduelis Schultz.(nom.preoc.Cram). Nyt.Mag.Naturv.1906.44.p.108.
The black pattern of the upperside,especially in the apical region,of a whitish grey.

ab.brunnea-albimaculata Reuss. Int.Ent.Z.1916.9.p.131.
The space between the first and second costal spots of the forewings is white. This new white spot stands out strongly from the otherwise dark colouring. The ground colour is brown,the hindwings dark dusted.

ab.sexiespupillata Verity. Ent.Rec.1919.31.p..98.
A supplementary white spot below the row of apical ones,making six.
Verity evidently counts the costal white spot as two because it is divided by a vein.

ab.septiespupillata Verity. Ent.Rec.1919.31.p.198.
= martha-maria Stephan. Soc.Ent.1924.39.p.25.
A supplementary white spot below the row of apical ones as in the preceding seiespupillata but in addition a further white spot in the fulvous area between the cubital nervures,as often seen in atalanta,making seven in all.
Again,to make seven,Verity must be counting the white costal spot as two because it is divided by a black vein.
Stephan's martha-maria had an extra little white spot below the normal ones,and in addition a white spot in the fulvous area. This form,in atalanta,he named ab.martha.

ab.albipuncta Lempke. Tijdschr.Ent.1956.99.p.188.
A white spot in the fulvous band on the upperside of the forewings as seen often in V.atalanta.

ab.nigripuncta Lempke. Tijdschr.Ent.1956.99.p.188.
A black spot in the fulvous band on the upperside of the forewings. This also occurs in conjunction with sexiespupillata Vty.

ab.subfracta Stach. Spraw.Kom.Fizjogr.1925.58-59.p.114. fig.
The large white space on the costa of the forewings is broken up into three components.

ab.ocellata Rebel. Berge's Schmett.1910.p.20.
The antemarginal round spots on the upperside of the hindwings contain blue centres.

ab.conjuncta Verity. Ent.Rec.1919.31.p.197.
The black apical and posterior patches joined together by a band,on the upperside of the forewings.

ab.flava Bandermann. Int.Ent.Z.1928.22.p.236.
Hindwings with the black spots and marginal spots absent on a light uniform ochre ground. Forewings the black is much diminished and the subapical spots are light ochre-yellow instead of white.

cardui aberrational forms etc.

Key to elymi forms.

I. Forewings normal, hindwings with the dark markings strongly reduced, i.e. with no median band. = emielymi Verity.

2. Forewings not normal, the large white costal spot absent or almost so, and the black markings or band between the discoidal cell and the inner margin also absent.
Hindwings see 2a, 2b, 2c, 2d, and 2e.

2a. Forewings as in 2, hindwings with the black spots at the ends of the veins present, also the next row of small black spots or chevrons immediately above them and the third row of round spots but with the black discal markings for the greater part failing. = browni Meilh.

2b. Forewings as in 2, hindwings as in 2a but with the second row of small spots, those immediately above the black vein ends, absent, as well as the dark discal markings. = varini Meilh. See South pl. 49 f. 4.

2c. Forewings as in 2, hindwings as in 2a but with no second row of small black spots or chevrons and with the third row of the usual black spots replaced by wh white ocelli, the black discal markings are also absent.
= rogeri Meilh. (See Frohawk -- . Brit. Butts. pl. 26 f. I6.)

2d. Forewings as in 2, hindwings with the black discal markings present, otherwise like varini Meilh., i.e. with the second row of small spots or chevrons absent but with the ends of the veins forming black spots, the third row of black spots replaced by white ocelli. The figure of the type seen by Mons. J. Lempke.
= elymi Ramb.

2e. Forewings as im 2, hindwings practically normal.
= inornata Brams.

ab. priameis Schultz. Nyt. Mag. Naturv. 1906. 44. p. 108.
Hindwings with the margin spots elongated radially.

ab. emielymi Verity. Ent. Rec. 1919. 31. p. 198. (see Lep. Comp. X. pl. CCXCIV. f. 2417.)
"A specimen similar to the aberration figured by Oberthur in Lep. Comp. X , it is a transition to ab. elymi Ramb."
One can only describe Oberthur's figure since Verity gives no further description himself. The hindwings lack the markings in the median area which normally form a band and at the apex there are two distinct rays running from the basal area out to the margin. The row of submarginal round spots and the black spots at the ends of the veins are present.

ab. inornata Bramson. Ann. Soc. Ent. Fr. 1886. p. 284.
On the forewings the transverse band is absent, the black costal spots are still present. The large white blotch on the costa in the black apical area is almost absent, a small portion remaining on the costa, and the submaginal row of white spots are very close to each other almost forming one long spot, somewhat suffused, with a supplementary white spot beneath it. Hindwings more or less normal but the border very wide at the costa.
One of the transitional forms to ab. elymi Ramb.

ab. browni Meilhan. Proc. Verb. Soc. Linn. Bord. 1929. 80. p. 102.
On the forewings the black markings forming the median band are absent, only the portion nearest the costa remaining. The large white costal spot is absent or almost so. Hindwings with the dark discal band-like markings absent but the three rows of marginal spots normal.

ab. varini Meilhan. Proc. Verb. Soc. Linn. Bord. 1929. 80. p. 103.
On the forewings the black markings forming the median band are absent between the discoidal cell and the inner margin. The large white costal blotch is reduced or obscured by black dusting. Hindwings with the discal band absent and the row of small spots or chevrons immediately preceding the black vein-ends also absent. The vein-ends remain black and the row of submarginal spots or ocelli, the main row, are still present.
Lempke cites the figure in South Brit. Butts. pl. 49. f. 4. as being this form.

ab. rogeri Meilhan. Proc. Verb. Soc. Linn. Bord. 1929. 80. p. 102.
On the forewings the discal band is absent, also the large white costal spot. Hindwings with the discal band absent or mostly so, the vein-ends well marked but the small spots or chevrons immediately in front of them are absent. The main row of submarginal spots or ocelli are represented by white ocelli instead of black.
Lempke cites the figure in Frohawk's Brit. Butts. pl. 26. f. 16 as this form.

ab. elymi Rambur. Ann. Sci. Observ. 1829.
There is much confusion over this form, many transitional examples being called and recorded as elymi. The original description not being available Mons. B. Lempke has kindly sent me a drawing of the original figure which he has seen, This shows a quite different pattern of hindwings from that usually associated with this form, being much darker in the discal area and base, the forewings also show more black than most of the transitional forms. Lempke says he has not seen any such example or even figure, so that it must be extremely rare. A translation from the original description is - forewings with the external half occupied in part by a large black area which comes down as far as the posterior angle and which is cut on the margin by a band of fulvous spots. Near this band and more interiorly is another band of five white spots from the costa down as far as the middle of the wing and in this direction the rudiments of two other spots. At the internal extremity of the black area near the costa is a large black dot. Hindwings with the external part of the costa largely bordered with black, with one or two transverse bands towards the middle of wing. Nervures black dilated at their ends. Posteriorly a transverse series of five black spots, a little ocellated.

ab. schoenfellneri Hoffmann. Z. Ost. Ent. Ver. 1925. 10. p. 29. fig.
The figure shows the forewings with the normal transverse black band considerably increased, forming a large black median area linking up completely the three black spots i. e. - the two on the inner margin and the one above them, thus forming a black triangle. This triangle is also united with the black apical area as in ab. conjuncta Vty, and the main white spot is considerably enlarged, almost twice normal size, but the small apical ones are mostly below normal size. The hindwings are more or less normal.
A most striking aberration on account of the large black triangle extending upwards from the inner margin to the centre of the wing.

ab. wiskotti Standfuss. Ent. Z. 1895. 9. p. 91. (fig. Standfuss Handbuch pl. 7. f. 6)
Melanic form. The wings covered with grey scales above and below, only the median area of the forewings and the outer margin of the hindwings being less dusted or not dusted at all.
The figure shows the pinkish parts of the forewings dark dusted to a brownish-grey except for a small area around the lowest black costal spot forming a reddish ring around it. The hindwings are dark dusted to a greyish-brown with only a hint of the normal fulvous, only on the extreme margin does the normal pinkish ground colour appear, very bright, and in striking contrast to the darkened parts. This pinkish border is cut by very prominent black vein-ends. The normal markings can be seen on both wings beneath the covering of grey scales.

ab. johni Fischer. Int. Ent. Z. 1932. 26. p. 158. Fischer plate f. 2.
Strongly melanic and more extreme than the preceding wiskotti.. The first costal space very much blackened and the black extending so far over the forewings that only one patch of normal ground colour is left in the median area - the outer third of the cell and a small spot above vein 4 in the centre of the wing with two smaller ones beneath it, so that a broken fulvous transverse band is formed across the black area. The apical white spots and costal blotch are small but normal. The hindwings considerably darker than in wiskotti. At the end of the cell there is a spot of normal ground and between this and the apical angle is a light streak. The margin is very narrow and had broad black flecks on the veins.
The figure shows all wings blackened except for some small spots of fulvous in the centre of the forewings and the normal white costal blotch and row of apical white spots, the fulvous costal space however remains normal and prominent. The hindwings also very blackened, only three fulvous spots appearing in the upper half of the wing. The margin shows a very narrow fulvous line cut by the black vein-ends.

ab. melanosa Cabeau. Rev. Mens. Soc. Ent. Naml913. p. 43. (fig. Lamb. 40. pl. 1. f. 3.)
On the upperside of the forewings the black element is strong, the black spots almost all confluent so that the fulvous area is very restricted and the little white apical spots reduced. On the hindwings there is a black veiling, the black markings are very large, the three upper submarginal ones are confluent, the fulvous space being very much reduced and veiled with black.
The description would seem to be very much exaggerated especially as regards the forewings. The photograph of the Type show the forewings almost normal, the fulvous being lightly dusted only in the cell at the tornus, and the black markings no more confluent than most cardui, only a very slight dusting of the veins. The hindwings would seem to be the reason for the name. These are somewhat dusted with dark scales, the usual dark markings being more or less confluent. The margins are not dusted and quite normal.

ab. semisuffusa Cockerell. Entom. 1889. 22. p. 54. (Entom. 11. p. 24.)
The upperside of the hindwings smoky.

ab.minor Failla. Nat.Sic.1887.7.p.71.
Paler than typical and less than half normal size.

ab.carduelina Alpheraky. Horae Soc.Ent.Ross.1908.38.p.574.
= minor Cannaviello.(nom.preoc.Failla.) Misc.Ent.1900.8.p.19.
Small dwarf forms,almost half normal size.
Cannaviello's minor was 28-30mm.in the male and 30-33mm.in the female.

cardui Linn. figures.

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urticae Linnaeus. Syst. Nat. X. 1758. p. 477.

aberrational forms etc.

ab. bellieri Cabeau. Rev. Mens. Soc. Ent. Nam. 1923. 23. p. 24.
= alba Raynor. (nom. preoc. Cocsmovici). Ent. Rec. 1909. 21. p. 8.
Upperside with the ground colour white.

ab. pallida Frohawk. (nom. preoc. Mosley). Vars. Brit. Butts. 1938. p. 91.
Upperside with the ground colour whitish.
Presumably this is just off white and therefore not the same as the preceding.

ab. pallida Mosley. Nat. Journ. Suppl. 1896. p. 14.
= herrmanni Herrmann. Ent. Z. 1901. 15. p. 54.
Upperside with the ground colour very light ochre-yellow.

ab. lucida Fritsch. Ent. Rundsch. 1913. 30. p. 9.
The whole ground colour lighter, the fox-red recedes and the straw-yellow comes up.
Possibly the same as the preceding.

ab. consentanea Jachontov. Rev. Russe Ent. 1906. 6. p. 17.
Upperside with pale yellowish ground colour but with the marginal lunules larger than usual.
From a Verity description. The original is in Russian only.

ab. embryonalis Solowjev. Hor. Soc. Ent. Ross. 1907. 38. p. 143.
The ground colour pale yellowish-fulvous and with a marked reduction in all the black spots, commencing with the large costal blotch of the forewings.
From a Verity description. The original is in Russian.

ab. lutea Raynor. Ent. Rec. 1909. 21. p. 7.
The ground colour of the upperside buff.

ab. discolor Hein. Insektenborse 1894. 11. p. 131.
Upperside with the ground colour dark ochre-yellow with no red.

ab. sordida Fritsch. Ent. Rundsch. 1913. 30. p. 9.
Upperside with the ground colour not fox-red but duller, of a dull yellowish-brown or salmon-brown, with a fading of the straw-yellow patches.

ab. rubrochrea Raynor. Ent. Rec. 1919. 2. p. 7.
Upperside with the ground colour reddish-ochreous.

ab. fulva Raynor. Ent. Rec. 1909. 21. p. 7.
Upperside with the ground colour reddish-fulvous.

ab. clarirufa Raynor. Ent. Rec. 1909. 21. p. 7.
Upperside with the ground colour bright rufous.

ab. ignea Raynor. Ent. Rec. 1909. 21. p. 7.
= fervida Fritsch. Ent. Rundsch. 1913. 30. p. 9.
Upperside with the ground colour fiery-red.
Fritsch decribed his fervida as fiery and deep fox-red.

ab. igneaformis Reuss. Entom. 1910. 43. p. 343.
Upperside with the ground colour reddish. Transitional to the preceding ignea.
Reuss hints that Raynor's ignea is unknown, or extremely rare, in the field.

ab. latericolor Raynor. Ent. Rec. 1909. 21. p. 7.
Upperside with the ground colour brick-red.

ab. cruentata Fritsch. Ent. Rundsch. 1913. 30. p. 9.
Upperside with the ground colour rich blood-red.

ab. obscura Raynor. Ent. Rec. 1909. 21. p. 7.
Upperside with the ground colour dull dusky red.

ab. testudinea Raynor. Ent. Rec. 1909. 21. p. 7.
Upperside with the ground colour of a deep rich tortoiseshell.

ab. polychloroides Raynor. Ent. Rec. 1909. 21. p. 7.
Upperside with the ground colour like that of polychloros.

ab. salmonicolor Raynor. Ent. Rec. 1906. 18. p. 298.
Upperside with the ground colour salmon.

ab. rosacea Closs. Int. Ent. Z. 1915. 9. p. 115.
Upperside with the ground colour pale rose, very light, with a rose-red shade.

ab. brunneoviolacea Raynor. Ent. Rec. 1909. 21. p. 7.
=. guhni Tschauner. Int. Ent. Z. 1926. 20. p. 229.
= implumis Watkins. Entom. 1942. 75. p. 202.
Upperside with the ground colour brown-violet.
Tschauner's guhni was of the same colour with thin scaling.
Watkin's implumis had rolled-up scales, giving the impression of thinness and a smoky, slightly iridescent suffusion of purplish-pink to purplish-yellow.
This colour form varies considerably since the scales are abnormal and produce a semi-greasy appearance, the usual red of the Tortoiseshell being completely absent.

ab.velata Turati. Nat.Sic.1919.23.p.220.
Upperside with the ground colour smoky,caused by a dusting of black atoms especially in the distal area.
Described under the subsp.turcica but may well occur in other races.

ab.semialba Frohawk. Vars.Brit.Butts.1938.p.92.pl.22.f.1.
Forewings,except the basal third which is of normal reddish,of a transparent whitish colour,the veins picked out in reddish.The lowest cell,on the inner margin,retains its normal reddish and there is still a small patch of reddish near the apex of the wing. Hindwings with the usual reddish band of a whitish-pink.
This form is probably pathological,with defective scaling.

ab.flavofasciata Debauche. Lamb.1929.29.p.66.
= ochrea Debauche. Lamb.1933.33.p.208.
On the upperside of the hindwings the yellow apical patch is extended as far as the anal angle,thus forming a yellow fascia.
Debauche named the same form twice,his second name "ochrea" had the description- "On the upperside of the hindwings the red of the median part is entirely replaced by pale ochre-yellow."

ab.adumbrata Raynor. Ent.Rec.1909.21.p.8
The upper part of the transverse band of the upperside of the hindwings is clouded with black.

ab.infraradiata Raynor. Ent.Rec.1909.21.p.8.
On the upperside of the hindwings the veins are much blackened,those of the forewings normal.

ab.radiata Raynor. Ent.Rec.1909.21.p.7.
= neurodes Cabeau. Rev.Mens.Soc.Ent.Nam.1922.22.p.22
On the upperside of the forewings the veins in the reddish areas are much blackened.
Cabeau's neurodes had the forewings divided by broad black nervures.

ab.latibalteata Raynor. Ent.Rec.1909.21.p.8.
On the upperside of the hindwings the transverse band is broad.

ab.angustibalteata Raynor. Ent.Rec.1909.21.p.8.
On the upperside of the hindwings the transverse band is narrow.

ab.derennei Cabeau. Rev.Mens.Soc.Ent.Nam.1922.22.p.26. (fig.Lamb.31.pl.12.f.9)
The postmedian yellow patch on the costa of the forewings in normal specimens,is replaced by reddish,i.e.- the same colour as the rest of the wing.
Transitional to the following form.

ab.erythrophaea Fritsch. Ent.Rundsch.1913.30.p.9.
The yellow costal patches,and the yellow patch on the outer edge of the black spot of the inner-margin,are only feebly yellow or not yellow,instead they are of a warm scarlet-brown.

ab. extrema Schonfelder. Ent. Z. 1925. 39. p. 143.
The upperside of the forewings with no yellow costal or discal spots, the colour being uniformly dark reddish-brown to dark yellow-brown. Hindwings with no yellow costal portion to the red transverse band. All these yellow patches or spots are of the same colour as the rest of the wings and the apical white patch of the forewings is weakly grey, there are no blue marginal spots on the forewings and those of the hindwings are dull bluish-grey with the anal area darker than usual.
This appears to be much more extreme than the preceding, Lempke however makes it a synonym

ab. alba Cosmovici. Le Nat. 1892. 14. p. 255.
= albidomaculata Stach. Spraw. Kom. Fiz. 1922. 55-56. p. 132
The normal yellow costal patches replaced by white.
Stach's albidomaculata had all the markings which are normally yellow changed to white.
Lempke says the alba of Cosmovici should be dropped as it was probably founded on faded specimens. Since Cosmovici says "white" I do not see how faded specimens could be confused, they are never really white but a drab transparent nondescript colour.

ab. costadivisa Groenendijk. Ent. Ber. (Amst.) 1966. 26. p. 22.
On the upperside of the forewings the third or outer black costal spot is intersected by the ground colour along nervure 6.

ab. maculomissa Goodson. Entom. 1959. 92. p. 148.
On the upperside of the forewings the lowest of the three black blotches on the costa, the basal, is completely absent.

ab. albápicata Cabeau. Rev. Mens. Soc. Ent. Nam. 1925. 25. p. 81.
The apical white patch on the costa of the forewings is very extended and cut by b black nervures.

ab. expansa Groenendijk. Ent. Ber. (Amst.). 1966. 26. p. 22.
The white apical patch of the forewings is enlarged and extends over cells 7, 8, and 9. It is bordered on its lower side by a black line which connects the third black costal spot with the black marginal band.
Extremely similar to the preceding but the white patach apparently not cut by black veins.

ab. caerulapicata Raynor. Ent. Rec. 1906. 18. p. 298.
A delicate chalky-blue suffusion at the apex of the forewings.

ab. fasciata Reuss. Ent. Rec. 1909. 21. p. 86. pl. 7. f. 8.
The white apical patch of the forewings considerably enlarged, cut by the black nervures to form white rays which reach from the narrow marginal band across toward the black discal spots which, however, in the figure, are not present. The white rays decrease in width as they go downward, finishing half way down the wing. The median area, around the position of the twin discal spots, is lightened to form a yellowish band which links up with the yellow costal spot to form a continuous median pale band. The black costal blotches are normal and the hindwings are normal.
There is no description, the above is from the figure in black and white.

ab.flavotessellata Raynor. Ent.Rec.1909.21.p.7.
= xanthodes Cabeau. Rev.Mens.Soc.Ent.Nam.1922.22.p.21.
= elisa Stephan. Iris.1923.37.p.37.
Forewings with a pale yellow band developed from costa down to inner margin, enveloping the twin discal spots.
Cabeau's xanthodes had a yellow postmedian band which contains the twin-spots. Stephan's elisa had the yellow costal blotch continuing downwards in the shape of a slightly curved band as far as the inner margin and enclosing the twin-spots. The hindwings with the yellow apical part of the transverse band stretching far down. This form can be separated if desired on account of this hindwing band being slightly different from normal, the main character however would seem to be the forewing band.

ab.ichnusioides de Selys. Cat.Lep.Belg.1837.p.18.
= impuncta Lempke. Lamb.1931.31.p.98.
= pseudoichnusa Sagarra. Butll.Inst.Catal.Hist.Nat. .10.p.114.
The black spots on the forewings are only four in number as in subsp.ichnusa Bon. from Corsica, the character of which it closely resembles.
Verity in his Farf.Diurn.It.4.p.365 states that this is the original description of ichnusioides Selys and therefore the correct name for specimens which do not have the two discal twin-spots. Selys unfortunately linked the name later with specimens which had the twin-spots absent but also had the costal black spots united as in ab.atrabatensis Boisd. and subsequent authors use the name for examples showing this added character. Selys obviously used the name ichnusioides because it was like ichnusa Bon., the Corsican subspecies, which has the twin-spots absent but certainly not the costal spots joined into a black blotch.
Lempke takes the view of most other authors and accepts the later figure given by Selys in Soc.Ent.Belg.21.pl.1.f.5. which has the black costal spots united, but he gives the original reference, "Cat.Lep.Belg.1837.p.18". I have not seen the original description but there is no reason to doubt Verity and in my opinion the fact that Selys says it closely resembles ichnusa rules out the possibility that the costal spots are united. Lempke's impuncta which the twin-spots absent is therefore a synonym.

subsp.ichnusa Bon. Mem.Ac.Tor.1826.p.174. (from Corsica)
= pseudichnusa Reuss. Ent.Z.1939.53.p.2.
Neither of these names should be used for British specimens, they apply to the Corsican subspecies.
Reuss described his pseudichnusa from the figure given by Frohawk in Brit.Butts. pl.25.f.13. and said to have been captured at Bocking, Essex. We have this specimen in the R.C.K. collection here and there is no doubt that it is the Corsican form and wrongly labelled. The name, although given to a reputedly British specimen, really becomes a synonym of the Corsican race.

ab.parvipuncta Raynor. Ent.Rec.1909.21.p.8.
The twin discal spots of the forewings very small.

ab.pseudoturcica Fritsch. Ent.Rundsch.1909.30.p.9.
Lively or bright fox-red with the median twin-spots of the forewings smaller or completely absent and the margins narrow.

ab.magnipuncta Raynor. Ent.Rec.1909.21.p.8.
The twin discal spots of the forewings very large.

ab.unipuncta Raynor. Ent.Rec.1909.21.p.8.
= monographa Cabeau. Rev.Mens.Soc.Ent.Nam.1922.22.p.22.
Only one of the twin-spots present.
Cabeau's monographa had the upper of the two discal spots completely absent, the lower one very small. By the name, it would appear to be only one spot counting.

ab. punctijuncta Raynor. Ent. Rec. 1909. 21. p. 8.
The twin discal spots of the forewings joined.

ab. tripuncta Raynor. Ent. Rec. 1909. 21. p. 8.
Forewings with an extra discal spot, making three instead of the normal twin-spots.

ab. quadripuncta Peerdeman. Ent. Ber (Amst.) 1962. 22. p. 41. pl. fig. 1.
On the forewings an extra spot above and below the twin discal spots making four. Peerdeman credits Birch with the authorship of the name but Birch only described, without naming, the form in Entom. 77. p. 7.

ab. elongata Birch. Entom. 1944. 77. p. 7.
The black twin discal spots of the forewings, one or both, elongated.

ab. strigata Raynor. Ent. Rec. 1909. 21. p. 7.
A black streak situated in the centre of the forewings between the black costal spot and the black blotch on the inner margin. The streak is horizontal and would seem to be the first stage of what is often called ab. polaris, a Polar subspecies which has a blackish cloudy area connecting the black costal spot with that on the inner margin. Raynor has named the similar aberration nubilata.

ab. nubilata Raynor. Ent. Rec. 1909. 21. p. 7.
A blackish cloudy area between the second black costal spot and the black spot on the inner margin. This is often wrongly called ab. polaris Stgr., which is a northern subspecies.

urticae
subsp. polaris Staudinger.
This name should not be used for the British aberration which appears similar. It applies to the Polar regions subspecies.

ab. pseudoconnexa Cabeau. Lamb. 1927. 27. p. 90. (fig. Lamb. 29. pl. 1. f. 3.)
= fasciata Maslowscy. (nom. preoc. Reuss.) Polsk. Pismo. Ent. 1923. 2. p. 126. pl. 1. f. 2.
On the forewings the central black costal spot is joined to the black spot on the inner margin by a black band formed by a thick powdering of black scales and therefore similar to the subsp. connexa from Japan.

ab. magninotata Raynor. Ent. Rec. 1909. 21. p. 8.
The black spot on the inner margin large.

ab. parvinotata Raynor. Ent. Rec. 1909. 21. p. 8.
The black spot on the inner margin small.

ab. nigridorsata Raynor. Ent. Rec. 1909. 21. p. 8.
A black streak running from the tornus to the central black spot on the inner margin.

ab. basi-nigra Reuss. Entom. 1910. 43. p. 342.
Forewings with the black basal colouring variable in extent and the usual yellowish suffusion almost wanting, leaving the base very dark.

ab. basi-ichnusa Reuss. Entom. 1910. 43. p. 280.
The basal portions of the forewings cloud up exactly as in the subsp. ichnusa Bon. which has this clouding extended almost up to the first black costal spot.

ab. basi-milberti Reuss. Entom. 1910. 43. p. 280.
A dark form in which the base of the forewings is much suffused with black and red-brown scales, mostly extending to the median area of the wing as in the subsp. milberti.

ab. infuscata Raynor. Ent. Rec. 1909. 21. p. 7.
All the dark markings are intensified.

ab. griseomarginata Raynor. Ent. Rec. 1909. 21. p. 7.
The outer margins edged with grey.

ab. luteomarginata Lambillion. Rev. Mens. Ent. Soc. 1906. p. 47.
= fulvomarginata Raynor. Ent. Rec. 1909. 21. p. 7.
The outer margins edged with pale yellow and not greyish-blue as in the type form. Raynor's form was edged with fulvous.

ab. nigrimarginata Lempke. Tijdschr. Ent. 1956. 99. p. 215.
Both fore and hindwings with a broad black outer border. All other markings normal.

ab. magniguttata Raynor. Ent. Rec. 1909. 21. p. 7.
With large blue lunules in the border of the forewings.

ab. parviguttata Raynor. Ent. Rec. 1909. 21. p. 7.
With small blue lunules in the border of the margin of the forewings.

ab. magnilunulata Raynor. Ent. Rec. 1909. 21. p. 8.
With large blue lunules in the margin of the hindwings.

ab. parvilunulata Raynor. Ent. Rec. 1909. 21. p. 8.
With small blue lunules in the margin of the hindwings.

ab. cuneatiguttata Raynor. Ent. Rec. 1909. 21. p. 7.
The blue marginal lunules of the forewings wedge-shaped.

ab. bolandii Lambillion. Rev. Mens. Soc. Ent. Nam. 1907. p. 42.
The blue lunules in the margin extend into streaks, especially on the forewings, traversing the width of the border which is very broad and black, advancing into the fulvous ground colour.

ab.violescens Slevogt. Horae.Soc.Ent.Ross.1900.34.p.530.
The marginal lunules have a violet glitter.

ab.luna Reuss. Entom.1909.42.p.223.fig.1.
Hindwings with the two upper of the four blue lunules in the anal area united to form a large blue crescent. The two lower ones are normal and the other lunules in the costal half of the wing are very faint or absent. Forewings with only three blue lunules in the middle of the margin and the yellow costal space betweer the second and third black costal spots is crossed by a black line.
The form would appear to have been named on the character of the blue crscent on the hindwings.

ab.nigricostata Raynor. Ent.Rec.1909.21.p.7.
With a narrow black margin to the costa of the forewings.

ab.costajuncta Lempke. Tijdschr.Ent.1956.99.p.214.
On the upperside of the forewings the first and second costal spots are connected by a thick black bar along the costa. All other markings normal.

ab.leodiensis Cabeau. Lamb.1927.27.p.33. (fig.Lamb.31.pl.XI.f.1.)
Forewings with the second and third black costal spots fused into one and no yellow spaces on the costa. The twin discal spots are faint or absent and there are no blue lunules in the margin. Hindwings without the yellow patch near the apex or upper part of the fulvous band.
The photograph shows the light patch at the top of the fulvous band very clearly, despite the description.

ab.seminigra Frohawk. Vars.Brit.Butts.1938.p.92.pl.22.f.2.
The two upper black costal spots united into one,the twin discal spots absent and the blue marginal lunules reduced to three. Hindwings with the upper part of the fulvous band clouded over instead of showing a pale patch,and with blue lunule Hardly separable from the preceding but shows some blue lunules in the margin of the forewings,which are said to be lacking in leodiensis.

ab.ioprotoformis Reuss. Ent.Rec.1909.21.p.86(explan.of plate) pl.7.f.5.
There is no description,only the figure,which shows the second and third black costal spots united with each other and the first spot almost so. The twin discal spots are absent and the black spot on the inner margin also absent. Hindwings with the transverse band brownish,obscured at the top(apex) and with three large wedge-shaped blue spots in the margin and some lower blue spots very faint.

ab.ioformis Reuss. Ent.Rec.1909.21.p.83.pl.7.f.1.
The apex having the appearance of V.io,the markings forming a similar ocellus. The second and third costal black spots are more or less united but the upper one is surrounded on its outer side by whitish and is round in shape as in the Peacock mark in V.io. The white spots on its outer side are metallic and cut by black veins,the two lowest being shaded with violet as in V.io. The twin discal spots are absent and the black margins wide. Hindwings brownish,the colour of V.io,with a large area in the costal half,the position of the ocellus in V.io, of a brown-black
The figure shows the forewings extraordinarilly like V.io,especially as regards the ocellus marking at the apex,and the very wide dark marginal border.

 urticae Linn. continued.

ab. dannenbergi Neuberg. Soc. Ent. 1905. 19. p. 170.
On the forewings the two upper black costal spots are joined into one and the twin discal spots are absent. Hindwings with the fulvous transverse band suffused into the black of the basal half. On both fore and hindwings the normally blue marginal lunules are replaced by decided straw-yellow wedges, those of the hindwings particularly cuneate, extending as far as the margin through the disappearance of the normal black marginal line.
Whether or not the hindwings have the usual fulvous transverse band, is not stated, presumably the band is still present.

ab. lucia Derenne. Lamb. 1926. 26. p. 82.
On the forewings the yellow patches between the two upper black costal spots are dusted over and appear greyish. The twin discal spots are absent and the margins black with imperceptible blue lunules. Hindwings black with a trace of fulvous in the middle, the blue marginal lunules very feeble.

ab. atrebatensis Boisduval. Rev. et. Mag. Zool. 1873. Ser. 3. vol. 1. p. 409. pl. 17. f. 1.
On the forewings the two upper black costal spots are more or less joined by a suffusion of black scales blotting out the normal yellow space. The twin discal spots are absent, the marginal black band narrow with small blue spots. Hindwings black-brown and showing a discal series of pale brown spots some distance before the margin which is blacker than the rest of the wing and narrow with a full row of small blue spots.

ab. semiichnusoides Pronin. Lep. Rundsch. 1928. 2. p. 179. fig.
The figure shows the two upper black costal spots united into a black blotch. The twin discal spots are absent and there are no blue marginal lunules on the forewings. Hindwings with the black extended to the margin, covering the usual fulvous transverse band except for a small area at the anal angle. The margins have normal blue lunules.

ab. nigricaria Lambillion. Hist. Nat et Moeurs. 1902. 1. p. 64. (~~fig. Tijds. Ent. 48. pl. 2. f. 5~~
(See Haverkampf Ann. Soc. Ent. Belg. 48. p. 186. pl. 1. f. 1.)
The forewings with the two upper black costal spots united into one bar. The twin discal spots absent. Hindwings all black with no blue lunules but with streaks of fawn at the margin.
Some authors give De Mofarts as the author but although he described it in Misc. Ent. 1895. p. 122 he did not name it.

ab. nigrita Fickert. Jahrsh. Ver. Nat. Wurtemberg. 1897. 53. p. 68.
The two upper black costal spots of the forewings united into one, the twin discal spots absent. Hindwings entirely black-brown without marginal spots or only slight traces of some yellowish ones.
I have not seen the original description but most authors say the chief character is the all black hindwings.

ab. nigra Tutt. Brit. Butts. 1896. p. 335.
Tutt merely says "the hindwings are sometimes entirely black". Since the forewing pattern is not mentioned, it is presumably normal.

ab. conjuncta Neuberg. Soc. Ent. 1905. 19. p. 170.
Agrees in general with atrebatensis Bsd. (above) but all three of the black costal spots are joined into one long bar.

ab. osborni Donckier. Feuille Jeun. Nat. 1881. XI. p. 33. pl. 1. f. 4.
All three black costal spots united into one long bar or stripe. There is no white apical space, rufous replacing it and the black margin is very wide covering the twin discal spots and joining up with the black spot on the inner margin. The marginal lunules are yellow-brown. Hindwings uniform brown, lighter towards the anal angle and with no marginal spots.

ab. gruetii Corcelle. Feuille Jeun. Nat. 1882. XII. p. 99. (Ref. in Seitz is incorrect)
On the forewings the base is fulvous-washed brown, but apart from a fulvous discoidal patch and the greyish-white apical patch, the whole wing is blackened by the joining up of all the black markings. Hindwings uniform black-brown, the lunules being absent on both fore and hindwings. Underside completely black, the forewings with a slight lightening towards the disc.
The most extreme form of all the melanics.

ab. victori Derenne. Lamb. 1926. 26. p. 83. (fig. Lamb. 31. pl. XI. f. 3.)
The figure shows the black margins of the forewings extremely wide especially at the apex, where it unites with the middle spot of the three costal ones, blotting out the white apical space. This wide margin reaches the twin discal spots on one forewing and almost so on the other, but is not so black as the markings, i. e. -the discal, costal, and inner marginal spots, which stand out in jet black compared with the rather muddy-black of the band. Hindwings normal with a rather wide marginal dark band but not nearly so broad as that of the forewings. The blue lunules are present but very small.

ab. selysi Donckier. Feuille Jeun. Nat. 1881. XI. p. 33. pl. 1. f. 2.
The ground colour pale rather washed-out reddish with no yellow spaces on the costa of the forewings. The twin discal spots are absent and the white apical patch is replaced by dirty-white, extensive, and cut by black veins, and leaving the black margin narrower, diminishing still more as it continues downwards. There is a distinct yellowish shade, or patch, at the tornus. The black costal spots are <u>not</u> joined but appear to be rather suffused or washed-out in the coloured figure. Hindwings of a dirty grey-brown with an orange cloud in the centre, rather small and slightly towards the anal angle.

f. 24.
ab. strandi Verity. Festschrift Embrik Strand 1936. 1. p. 481. (fig. Farf. Di. It. 4. pl. 53.
The figure shows towards the apex of the forewings three yellow rays or streaks, rather thin, and originating in the upper yellow costal space, cutting through to the edge of the wing, through the margins. Beneath these there are shorter yellow rays cutting through to the ground colour. The description says the general appearance is more showy, the pattern reduced as in the subsp. turcica but with the fulvous ground, especially in the ♀, very light and yellow, also reduced in extent by the long yellow spaces which penetrate into it.

ab. lydiae Dublitzky. Iris 1925. 39. p. 208.
Upperside of the forewings from 3C4 to Cu1 has a dull white stripe which ends in Cu1. The first third of Mz reddish-brown, otherwise black, the cell between M3 and Cu has reddish-brown for one third, otherwise right up to the outer edge whitish-grey. Between Cu2 and A2, nearer to the outer edge, a greyish black spot resembling that of Mz, which occupies the half of the cell. Melanic, transitional to ab. gruetii. This is the original description, not very clear.

ab. amploides Reuss.
The wings broader than usual, the external border less concave.

urticae Linn. continued.

ab. falcoides Reuss.
The wings narrow and the angles more marked so that it resembles the shape of c-album in this respect.

ab. urticoides Fischer de Waldheim. Ent. Ross. 1851. 5. p. 125.
= pygmaea Heyne(Ruhl).
= minor Derenne. Lamb. 1926. 26. p. 4.
Dwarf forms.

urticae Linn. continued.

underside forms.

ab. subtuslactea Raynor. Ent. Rec. 1909. 21. p. 8.
Underside with the pale areas creamy instead of ochreous.

ab. subtusrufa Raynor. Ent. Rec. 1909. 21. p. 8.
Underside with the pale areas rufous instead of ochreous.

ab. subtus-ochreabalteata Reuss. Entom. 1910. 43. p. 279.
On the underside of the hindwings the outer area is ochreous or white. Possibly the same as subtuslacteata Raynor which had all pale areas creamy, Reuss mention only the outer area of the hindwings so it is left as distinct for the present.

ab. subtusbrunnescens Groenendijk. Ent. Ber. (Amst). 1966. 26. p. 22.
On the underside of the forewings the area from the apex to, and including, the third costal spot, is almost unicolorous brown with small deep brown striae. This same colour is shown on the underside of the hindwings, consequently there is hardly any contrast between the lighter submaginal band and the dark parts.

ab. subtusnigrescens Lempke. Tijdschr. Ent. 1956. 99. p. 213.
The underside of the hindwings nearly unicolorous blackish.

ab. subtus-nigra Reuss. Entom. 1910. 43. p. 278.
On the underside the blackish markings in the basal and median portions of the wings are very conspicuous and brilliant.

ab. subtuspuncta Reuss. Entom. 1909. 42. p. 310.
Underside very dark. The twin discal spots of the forewings are well marked by deep brown blotches in the manner often exhibited in V. xanthomelas. On the upperside the black spot on the inner margin is obsolete.
The name implies an underside form only, the character of the upperside can be ignored. The type is in the R. C. K. Collection at Tring.

ab. subtus-ornata Reuss. Entom. 1910. 43. p. 84.
The underside with the marginal lunules of a light bluish-grey, groups of shining white scales brightening them and making them very conspicuous and decorative. The type is in the R. C. K. Collection at Tring.

ab. subtusvenata Lempke. Tijdschr. Ent. 1956. 99. p. 216.
On the underside of the hindwings the pale submarginal band is darkened but crossed by pale nervures.

INDEX

polychloros Linnaeus. Syst. Nat. 1758. Ed. 10. p. 477.

aberrational forms etc.

ab. pallida Tutt. Brit. Butts. 1896. p. 340.
All the pale portions of the wings white.

ab. orichalcea Bois-Reymond. Z. Wiss. Ins. Biol. (1931-32) 1931. 26. p. 33.
The ground colour of a peculiar dull brassy yellow, the black markings less intense and dark.

ab. okeni Fischer. Schweiz Ent. Anz. 1926. 5. no. 8. p. 2. (fig. Ent. Z. 42. pl. 3. f. 1)
The ground colour more towards that of antiopa, or between it and io, the yellow costal spaces covered by the same tint. The margins and black spots considerably reduced, the blue lunules appearing lighter in contrast.

ab. vigens Lempke. Tijdschr. Ent. 1956. 99. p. 203.
The ground colour of a fine deep warm tint, otherwise normal.
This description hardly implies a colour of any sort.

ab. parvipuncta Lempke. Tijdschr. Ent. 1956. 99. p. 203.
The two discal spots on the forewings are distinctly smaller than usual.

ab. magnipuncta Lempke. Tijdschr. Ent. 1956. 99. p. 204.
The two discal spots of the forewings are distinctly enlarged.

ab. longipuncta Lempke. Tijdschr. Ent. 1956. 99. p. 203.
The two discal spots of the forewings distinctly lengthened.

ab. pluripunctata Heinrich. Deutsch. Ent. Z. 1916. p. 360. pl. 4. f. 1.
The forewings with an extra discal spot, lying between the two black spots above the inner margin, and therefore just beneath the two normal discal spots.

ab. nubilata Lempke. Tijdschr. Ent. 1956. 99. p. 204.
On the forewings a black suffusion extends from the middle black costal blotch down to the large black spot below it near the inner margin.

ab. flavomaculata Lempke. Tijdschr. Ent. 1956. 99. p. 203.
On the upperside of the forewings a striking yellow spot or blotch on the outer side of the second black spot on the inner margin.
This would be the outer of the two spots.

ab. cassubiensis Heinrich. Berl. Ent. Z. 1910. 55. p. 106. pl. 1. f. 4.
The figure shows a black stripe along the inner margin of the forewings starting at the tornus and running horizontally to the centre of the wing or slightly beyond.

ab. concolor Lempke. Tijdschr. Ent. 1956. 99. p. 203.
On the forewings the yellow costal spaces are absent.

ab. nigroflava Biezanko. Arch. Naturg. 1924. 90. A5. p. 241. pl. 1. f. 4.
Forewings with a row of large black spots at the margin on the inside of which there is a row of yellow spots. The costal spots are lighter than normal. Hindwings with the yellow costal blotch almost as large as the black blotch.

ab. quinquepunctata Raynor. Ent. Rec. 1906. 18. p. 298.
= circumpunctata Cabeau. Lamb. 1926. 26. p. 18. (fig. Lamb. 32. pl. 12. f. 2)
= punctata Bois-Reymond. Z. Wiss. Ins. Biol. (1931-32) 1931. 26. p. 33.
= supinskia Wize. Polsk. Pismo. Ent. 1934. 13. p. 100.
On the hindwings there are five small black spots on the inside of the marginal band.

ab. extincta Gonner. Ent. Z. 1928. 42. p. 13. f. 2.
On the hindwings the large black costal spot is completely absent and in its place is yellowish scaling, forming a light spot.

ab. diffusa Fritsch. Ent. Rundsch. 1912. 29. p. 136.
The forewings with three diffused blue spots in the central part of the outer margin. The black basal spot and the two black spots on the inner margin are diffused or faded and the outer margin is not broadened only diffused, the brown colour is not darker but much lighter. Hindwings with somewhat enlarged blue marginal spots and a diffusion of the black basal spot. The general appearance is very diffused, with faded spots, partly distorted and broadened. The underside somewhat similar to ab. dixeyi Standf.

ab. dixeyi Standfuss. Handb. Pal. Grosschm. 1896. p. 248. pl. 7. f. 4.
The figure shows the forewings with the large black spot on the inner margin absent, other markings somewhat diffused. The margin shows extremely wide blue spots separated by the veins. Hindwings with the outer half very much more yellow than normal, the blue marginal lunules separated by yellow. Underside with the margins nor blackish but showing blue lunules.

ab. binaria Eisner. Ent. Ber. (Amst). 1966. 26. p. 112.
On the forewings the spot nearest the base is distinctly divided into two.

ab. testudo Esper. Eur. Schmett. 1777. 1. p. 118. pl. LXXIII. f. 1.
The three black costal spots of the forewings all joined into one long blotch or bar with just a trace of normal ground colour in its lower half. The two black spots on the inner margin are also united and the marginal band is not dark but of the same colour as the rest of the wing except for traces of darker colour in its centre, it is cut by the black veins. Hindwings blackish, the margins showing dusky yellow lunules.

ab. xanthochloros Treitschke. Ochs. Schmett. Eur. 1834. 10. p. 20.
Like the above ab, testudo Esper but brighter and showing bright and strong blue lunules in the margins.

ab. pyrrhomelaena Hubner. Eur. Schmett. 1805. 1. pl. 171. f. 845-846.
Forewings with the upper two black costal spots united into a bar or blotch, the lower one separated. Instead of the normal dark marginal band there are yellow and black rays and the twin discal spots are absent. Hindwings black with an antemarginal yellowish band and yellowish marginal lunules.

ab. extrema Gonner. Ent. Z. 1928. 42. p. 13. pl. 1. f. 3.
Close to ab. testudo Esper but differs by the black pattern being more diffused and extensive, all the black markings are linked with each other, the whole wing therefore black with the exception of the basal area, which is normal, and an area adjoining it of normal ground colour but very small in extent.
The figure shows the three black costal spots of the forewings all united into one stripe and all other spots joined to form long black stripes which cover the wing except for a small area from the centre of the wing to the base which is of normal colour. The dark margin is divided by wedge-shaped rays of orange-brown and shows a row of yellow spots starting at the apex of the costa and extending half way down the wing. Hindwings black, except the base which is normal, with rays or wedges of orange-brown in the margin reaching upwards to the centre of the wing.

ab. postnigrescens Lempke. Tijdschr. Ent. 1956. 99. p. 203.
Hindwings completely black. The type shows only a little normal brownish ground colour along the costa. The blue lunules fail.

ab. osborni Donkier. see Aglais urticae.
Stichel in Seitz Macrolep. 1. p. 204. states that this aberration described as belonging to urticae is in reality a polychloros form, similar to ab. testudo Esper. This is nonsense since the specimen came from Ireland where polychloros does not to my knowledge occur.

ab. pyromelas Freyer. Neu. Beitr. 1836. 2. p. 75. pl. 139.
= pygmaea Slevogt. Horae Soc. Ent. Ross. 1900. 34. p. 532.
Smaller than normal and slightly darker, otherwise typical.
Slevogt gives 2.1 c.m. as the size.

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io Linnaeus. Syst. Nat. 1758. X. p. 472.

aberrational forms etc.

ab. pallens Knoch. Int. Ent. Z. 1927. 20. p. 430.
The ground colour of the upperside is light red-brown and all other colours are paler, the yellow of the eyes is paler and the black-brown of the margin is replaced by light grey. The insect appears faded by sunlight as though it had been exposed for several weeks. The underside is also lighter, being light reddish-brown instead of the normal deep black.

ab. clara-violacea Reuss. Ent. Rec. 1910. 22. p. 141.
The ground colour clear cinnamon-tinted orange, the ocelli of all wings suffused with light violet.

ab. brunnea Reuss. Ent. Rec. 1911. 23. p. 19.
The ground colour chocolate-brown.

ab. fulva Oudemans. Tijdschr. Ent. 1905. 48. p. 6. pl. 2. f. 4.
= violascens Rebel. Verh. zool.-bot. Ges. Wien. 1926. 74-75. p. 122.
= transparens Beuret. Schweiz Ent. Anz. 1926. 5. no. 3. p. 3.
= implumis Watkins. Entom. 1942. 75. p. 202.
The figure of fulva shows the ground colour rather greyish violet with a yellowish tinge in the centre of the forewings, appearing thinly scaled. The description says "the normal purplish-red-brown replaced by dirty reddish-brown as if bleached." Rebel described his violaccens as having strong violet ground on account thinner scaling, one specimen has a yellowish tone.
Verity makes transparens a synonym of fulva but I have not verified this.
Watkins implumis had rolled up scales giving the impression of thinness and a smoky slightly iridescent suffusion.
These forms would seem to be slight variations of the defective-scaling form, which can be produced artificially with ammonia

ab. askysia Haanshus. Nord. Ebt. Tidsk. 1920. 1. p. 13.
The red-brown has turned to a greyish-brown and the blue is almost absent.
From a Verity description.

ab. astrida Derenne. Lamb. 1926. 26. p. 73.
Forewings with a median spot or blotch of pale yellow, 3mm. by 2mm., and oval in shape.

ab. irenea Pruffer. Bull. Acad. Krakau. 1921. p. 121.
= nigromaculata Metschl. Ver. Nat. Ver. Regensburg. 1923. 16. p. 39.
= hackrayi Cabeau. Rev. Mens. Soc. Ent. Nam. 1925. 25. p. 6. (fig. Lamb. 34. pl. 34. f. 3.)
A small blackish spot on the forewings above the inner margin, corresponding to that seen in A. urticae. This description is given by Seitz, I have not seen the original. Verity places nigromaculata as a synonym.
Cabeau described his hackrayi as having a black median spot above the first nervure, just above the inner margin.

ab.calorefacta Urech. Ent.Z.1897.11.p.2.
= calore-nigromaculata Urech. Ent.Z.1897.11.p.94.
Forewings with four black spots,each about 4 mm. square,one in the median cell towards the costa,one in each of the two cells formed by the median vein and its branches,the fourth the most distant,lies in the cell formed by the submedian vein,the median vein,and the branch of the median vein in the position of that seen in A.urtice,i.e.above the inner margin. The upper costal spot stretches into the median cell.
Urech named the same form twice in the same volume of Ent.Z.11.

ab.nigrifasciata Reuss. Ent.Rec.1910.22.p.140.
Forewings with a dark median fascia formed by a suffusion of black scales,running from the black costal blotch downwards to the inner margin.

ab.nigrolimbata Verity.(nom.nov.pro nigromaculata Klein)Farf.Di.It.1950.4.p.360.
= nigromaculata Kleinschmidt. (nom.preoc.Metschl.) Falco 1929.25.p.14.
The marginal band heavily spotted with black, the spots forming a row before the margin of the forewings

ab.marginalis Reuss. Ent.Rec.1911.23.p.16.
Forewings with black spots in the marginal band of such a size that they tend to coalesce and form a continuous band themselves.

ab.pavo Stichel. Berl.Ent.Z.1902.47.p.(11).
The margins though narrow are of a steel-blue with copper iridescence. The somewhat elongated small ocelli of the hindwings are also iridescent,of a metallic blue,as is also the large black costal spot of the forewings.

ab.diophthalmica Garbini. Bull.Soc.Veneto-Trentino Sci.Nat.1883.1.p.19.
= cyanosticta Raynor. Entom.1903.36.p.67.
On the upperside of the hindwings,between the ocellus and the angle of the tail, a little blue spot.
Raynor described his form as having a single blue spot beneath the "eye" of the hindwings.

ab.pallida Tutt. Brit.Butts.1896.p.326.
The pale yellow lunules which form the outside part of the forewings ocellus, and also the pale costal blotch,are white instead of ochreous.

ab.magnimaculata Reuss. Ent.Rec.1911.23.p.16.
The white spots in the ocellus of the forewings are much enlarged.

ab.parvimaculata Reuss. Ent.Rec.1911.23.p.16.
The white spots below the ocellus of the forewings tend to disappear and those inside it are very small.

ab.exmaculata Reuss. ?. Ent.Rec.1911.23.p.16.
Reuss gives no description but says that parvimaculata is "exmaculata trans" thus implying that "exmaculata" would have no white spots at all.He gives no previous reference so,unless a previous description with the name exists,it can hardly stand.

ab.mesoides Reuss. Entom.1910.43.p.341. (description vol.42.p.311.fig.4.)
The ocellus of the forewings with the blue on its outer side divided into spots by the black veins running through it. The ground colour is lighter and the ocellus of the hindwings has two heavy black bands across it.

ab.teloides Reuss. Entom.1910.43.p.341. (description vol.42.p.311.
The ocellus of the forewings with the blue on its outer side not divided by any black veins but forming a continuous band of blue. The ground colour is darker than normal and the hindwings ocellus shows more blue than usual.

ab.mesoteloides Reuss. Int.Ent.Z.1919.13.p.44.
Forewings like mesoides Reuss with the blue of the outer part of the forewings ocellus divided by black veins but with the hindwings like teloides Reuss with the hindwings ocellus showing more blue than usual.

ab.telomesoides Reuss. Int.Ent.Z.1919.13.p.46.
Forewings like teloides Reuss,the ocellus having the blue on its outer side uninterrupted by any black veins,thus forming a blue band. The hindwings however like mesoides Reuss,the ocellus showing two heavy black bands across it.

ab.teloides-splendens Reuss. Int.Ent.Z.1919.14.p.46.
Forewings with the blue of the outer half of the ocellus not cut by any black veins but forming a blue band. The hindwings ocellus with only one faint black bar showing in it and this also suffused with blue,the whole of the inside is therefore practically all blue.

ab.teloides-clara Reuss. Ent.Rec.1911.23.p.16.
With the characters of teloides Reuss but with the ground colour orange.
Orange would appear to be a trifle exaggerated,presumably the ground colour shows a tint of orange.

ab.teloides-brunnea Reuss. Ent.Rec.1911.23.p.16.
With the characters of teloides Reuss but with the ground colour chocolate-brown.

ab.mesoides-clara Reuss. Ent.Rec.1911.23.p.16.
With the characters of mesoides Reuss but the ground colour of an orange tint.

ab.mesoides-brunnea Reuss. Ent.Rec.1911.23.p.16.
With the characters of mesoides Reuss but the ground colour chocolate-brown.

ab.splendens Reuss. Entom.1909.43.p.311.fig.4.
The hindwings ocellus all blue with one faint black bar remaining but even this suffused with blue. There are three small white spots correlating with those of the forewings ocellus.

ab.lucidocellata Reuss. Ent.Rec.1910.22.p.140.
Hindwings ocellus with only one black bar,the lower one,showing in the blue area.

ab. nigriocellata Reuss. Ent. Rec. 1911. 23. p. 16.
The hindwings ocellus practically all black, with only four or five small separated blue spots.

ab. viridiocellata Reuss. Ent. Rec. 1910. 22. p. 140.
The ocellus of the forewings instead of normal blue, is of a most brilliant whitish-green, when the light falls on it at a sutable angle.

ab. fischeri Standfuss. Ent. Z. 1892. 6. p. 129. (fig. Standf. Handbuch pl. 6. f. 8)
The blue of the outer half of the forewings ocellus replaced by redlish-brown, and a row of small blue spots, starting at the apex and continuing downwards to the tornus just inside the dark marginal band which is darker brown than usual. These blue spots are not to be confused with the blue ones beneath the ocellus, they are marginal and normally there is no trace of such.

ab. iocaste Urech. Ent. Z. 1897. 11. p. 95.
= narses Schultz.
The yellow scales between the large black costal blotch and the basal blotch are replaced partly by black and partly red-brown. The hindwings ocellus is replaced by small spots formed by blue and black scales.
Verity makes narses a synonym but gives no reference.

ab. antigone Fischer. Neue Exper. Unters. 1896. p. 56. fig. 4b.
The upper black costal blotch of the forewings extends upwards and invades the ocellus, leaving only the outer half of it normal. Hindwings with the normal ocelli reduced to two small black edged spots, joined together, and surrounded by whitish suffusion which is the size of the normal ocellus.
This is very close to ab. belisaria Oberthur, in which the hindwings ocellus is completely absent, leaving only the whitish suffusion.

ab. belisaria Oberthur. Bull. Soc. Ent. Fr. 1889. p. 202.
The black costal spots of the forewings joined together, the upper part partly invading the ocellus, leaving only the outer part of it normal. Hindwings without ocellus, entirely deprived of the blue or black, leaving only a yellowish-grey lightening on a very dark ground, the size of the normal ocellus.

ab. prochnovi Pronin. Lep. Rundsch. 1925. 2. p. 179. fig. p. 178.
The figure shows the black costal blotches united, the upper part invading the ocellus as in the preceding, leaving only its outer half blue. The hindwings ocellus with the black-edged blue part rather smaller than usual with little black in it, the surrounding whitish suffusion of the size of a normal ocellus.

ab. oligoio Reuss. Ent. Z. 1939. 53. p. 4.
The pattern of the forewings is enriched by a dark spot on the inner margin and a shadowy median band which joins it. The second costal spot is enlarged like the third and the reduction of the usual yellow area due to this, gives the normal violet dusting of the ocellus a lighter shade. On the hindwings the ocellus is divided up into three well-shaped black-margined blue spots, the usual light surrounding suffusion being swallowed up, thus the three ocelli stand out on a dark ground.

ab. semi-ocellata Frohawk. Vars. Brit. Butts. 1938. p. 96. pl. 23. f. 2.
Hindwings with the blue ocellus reduced to two small separated spots which are surrounded by the usual light suffusion. Forewings normal.

ab. exoculata Weymer. Jahresber. Nat. Ver. Elberfeld. 1878. 5. p. 58.
On the hindwings the ocellus is absent, only the light suffusion remaining.

ab. griseocellata Lempke. Tijdschr. Ent. 1956. 99. p. 206.
On the forewings the blue tints of the ocellus are changed to grey.

ab. rubrocarens Brouwer. In Weer en Wind. 1942. 6. p. 56. fig. 2.
Pearly grey, with a rusty-grey outer border on fore and hindwings passing into the ground colour.

ab. basiobscura Reuss. Ent. Rec. 1910. 23. p. 140.
Forewings with the black basal suffusion reaching as far as the first costal blotch.

ab. extrema Fischer. Ill. Zt. Entom. 1898. 3. p. 356. fig. 49.
Hindwings deep black without any markings. Forewings similar, the three black costal spots and the broadened margin completely united with one another so that the whitish spots fail completely. The black is extended downwards across the central area to the inner margin and there united with a black spot in the first intercostal space.
The figure shows all wings entirely black.

ab. iodes Ochsenheimer. Schmett. Eur. 1807. 1. p. 109.
Smaller than normal, about half the size.

ab. bimaculata Temple. Ent. Rec. Var. Notes yes. Hemming 1925-27, p. 2

ab. meithani Fremont Ent. Rec. Hemming 1925-5[illegible]

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1. Polygonia Hubner.

c-album Linnaeus. Syst. Nat. 1758. X. p. 477.

aberrational forms etc.

ab. dilutus Frohawk. Vars. Brit. Butts. 1938. pl. ~~103~~ 24. f. 1. (p. 103)
The ground colour white.

ab. intermedia Newnham. Lep. Church Stretton. 1900. p. 125.
The ground colour very light fulvous, the spots small and few in number.

ab. neole Oliver. Entom. 1937. 70. p. 10.
The ground colour of a rather dark shade of mahogany, much darker than the type form, but not dusky or blackish.

ab. implumis Watkins. Entom. 1942. 75. p. 202.
On the upperside the wings have a smoky slightly iridescent suffusion with an impression of thin scaling which is caused by the scales being rolled up.
Similar to the dull, thinly scaled forms of A. urticae and V. io.

ab. obscura Closs. Int. Ent. Z. 1916. 9. p. 115.
The upperside is darkened, with broad dark marginal bands on both wings without the yellow marginal spots.

ab. hutchinsoni Robson. Young Nat. 1881. 2. p. 110.
= pallida Tutt. Brit. Butts. 1896. p. 344.
= pallidior Tutt. (underside). Brit. Butts. 1896. p. 346.
= lutescens H. Bath. Entom. 1896. 29. p. 257.
Specimens of the early summer brood with paler ground colour than those emerging later, the markings also paler. Underside difference even more noticeable, this early form being pale yellow-brown with rather darker markings towards the base and a few green spots and marks near the hind margin of both wings. The autumn specimens are blackish-brown in contrast.
Tutt's pallida was most probably this form, described as "the upperside more decidedly tinted with orange in the red.
Tutt's pallidior would appear to be the underside of the same form -the underside marbled with ochreous.
Bath's lutescens was the light form of the underside, seasonally dimorphic, which occurs as an aberration in the first generation.

ab. nubilata Lempke. Tijdschr. Ent. 1956. 99. p. 198.
On the upperside of the forewings the second costal spot from the base is connected with the spot near the inner margin by a dark suffusion.

ab. nigrolunaria Nitsche. Verh. zool.-bot. Ges. Wien. 1912. 62. p. (110).
On the upperside the normal marginal yellow lunules are replaced by black ones.

ab. pictior Verity. Ent. Rec. 1919. 31. p. 200.
The black pattern of the upperside much extended. The external precostal spots quite black and some additional black spots in the hind portion of the forewings, also the pre-marginal lunules and bands are black instead of chestnut.
Verity says this is the North European form, but it appears to be only an aberration.

c-album Linn. continued.

ab. j-album Spuler. Schmett. Eur. 1901. 1. p. 19.
The black pattern of the upperside often unites with the border and on the underside the C mark is elongated or drawn out.
Spuler names two forms in one here. By the name he is referring to the underside but links this with an aberrant upperside. The description is too vague to be of use, Blachier named the form in which the C mark is drawn out into a J or L and it would be better to use his name of "imperfecta" for the underside form.

ab. f-album Esper. Eur. Schmett. 1785. 1. (2). p. 168. pl. XXXVII. f. 1.
The figure is of a most curiously marked aberration and is not of the form with fused costal spots as most authors seem to have decided. The forewings upperside shows the normally doubled basal spot as one black square spot. The two large black costal spots are only indicated by small black spots on the extreme edge of the costa and slightly below these there is an oblong black blotch, separated from the small costal spots by a strip of ground colour. The central inner-marginal spot is joined to the other inner-marginal spot and therefore stretches towards the tornus. The margins are black with teeth-like wedges radiating inwards and taking in the twin discal spots. The hindwings have a large triangular black patch from the costa to below the centre, caused by the linking up of the spots in this area. The tails are black with a small portion of the margins on either side of them also black, leaving a band of ground colour between this black and the triangular black patch mentioned above. On the underside the forewings show long black radiations at the margin and a median band of black spots which are united towards the costa. The hindwings with an area of black in the upper half from near the base down to the tail in the form of three long rays, two of them not reaching the margin. The C mark is in the form of an F placed sideways.

ab. sagitta-album Frohawk. Vars. Brit. Butts. 1938. p. 103. pl. 24. f. 2 & 3.
On the upperside of the forewings the marginal band is broken up into teeth-like wedges radiating inwards as far as the twin discal spots which therefore cannot be seen. Above their normal position are two small black spots which are directly beneath the upper black costal spot. Hindwings dusky-brown, except for some normal ground colour at the apex which is cut by heavily-outlined black veins.
The underside is of the hutchinsoni form, yellowish, and the markings of the hindwings suffused with no distinct pattern except for a large white pear-shaped white spot which replaces the normal C mark.

ab. reichstettensis Fettig.
= reichenstettensis Ruhl. Pal. Grossschmett. 1893. p. 373.
On the upperside of the forewings only the two basal spots are normal. All the margins are broadly dusted black, especially on the inner margin from whence this black dusting reaches the centre of the discus in the form of a black triangular blotch. Hindwings even more heavily dusted with black so that only a small streak of normal ground colour remains at the base and on the fringes.
Gaede in Seitz Macrolep. Suppl. 1. p. 344 says the correct name for this form is reichstettensis Fettig but gives no reference. This description is taken from that of Ruhl.

ab. suffusa Frohawk. Vars. Brit. Butts. 1938. p. 103. pl. 24. f. 4.
On the upperside of the forewings the two upper black costal spots are united into one oblong blotch. In the centre of the margin there are two tooth-like wedges which reach and envelope the twin discal spots which therefore cannot be seen. Hindwings with the basal half black, leaving a broad marginal band of normal ground colour which is divided by well-blackened veins giving a radiated appearance. The tail, and a small area of the margin on either side of it, black. The basal black area is not so black as the triangular blotch which stretches from the costa almost to the anal angle.
The colouring of the figure is peculiar, purplish-brown, but since it is the same specimen as that figured in Frohawk's Brit. Butts. pl. 21 which is of normal ground colour, the colour must not be taken into any account.

c-album Linn. continued.

ab. cloqueti Clement. Bull. Soc. Ent. Fr. 1917. p. 125. fig.
A melanic form and certainly different from the figure of Esper's f-album. The forewings upperside shows the normal basal spot and the two upper costal spots fused together into one oblong blotch. The inner-marginal spots are fused together with another well developed black spot above them also fused, and together forming a black triangle. The twin discal spots are also faintly fused and unite with the black costal blotch on its outer side, and from the outer side connect with the triangular black blotch above the inner margin. Hindwings with a black triangular area from the costa downwards to just before the anal angle, leaving a wide margin of light ground colour in which the veins stand out well blackened, giving a radiated appearance. The tail is light, with no dark edging.

ab. immaculata Dioszeghy. Verh. Siebenb. Ver. Nat. (1933-34) 1935. 83-84. p. 111.
This form does not belong to c-album. It was described under P. l-album and its inclusion by some authors in the present species is incorrect.

ab. elongana Cabeau. Lamb. 1926. 26. p. 4.
The outline of the forewings extremely scalloped, the main projection measuring 56 mm. across the wings, and the concavity only 40 mm. The hindwings normal.

ab. pusilla Stichel. Seitz Macrolep. 1909. 1. p. 207.
Small dwarfed specimens.

ab. gilvomacula Meves. Ent. Tidskr. 1914. 35. p. 4.
On the upperside of the forewings there are white-yellow angulated spots; the largest and lightest in the middle of cell 1b, and another near the outer margin, and a further one in cell 2, also near the outer margin. (From the German on p. 38.)

P. T. O. for underside forms.

c-album Linn continued.

underside forms .

ab. castanea Verity. Farf. Diurn. It. 1950. 4. p. 346. pl. 52. f. 23.
An underside form of ab. hutchinsoni in which the wings are chestnut to ochreous-yellow.

ab. nigracastanea Verity. Farf. Diurn. It. 1950. 4. p. 346. pl. 52. f. 23.
A form of ab. hutchinsoni in which the underside is chestnut or fulvous with the markings blackish and contrasting with the rest.

ab. obscurior Failla. Nat. Sic. (1887-88) 1888. 7. p. 69.
A dark underside form found in the autumn.
This would appear to be merely the type form in contrast to the ab. hutchinsoni in which case it becomes merely a synonym of c-album Linn.

ab. carbonaria Verity. Ent. Rec. 1916. 28. p. 100.
Verity says that the Linnean type had the underside markings very dark, nearly blac with a lighter ground colour. A very distinct female form however occurs commonly in England as well as other parts of Europe, with the underside uniformly black and with a shiny surface, the pattern scarcely detectable, this is carbonaria.
Later in Farf. Diurn. It. 4. p. 346. 1950, he says the name can also apply to males although these have the pattern distinct.

ab. variegata Tutt. Brit. Butts. 1896. p. 346.
The underside dark marbled, the green often predominating.

ab. c-extinctum Gillmer. Int. Ent. Z. 1907. 1. p. 88.
Specimens without the white C on the underside. Gillmer says these have been bred but not caught wild.

ab. extincta Rebel. Verh. zool.-bot. Ges Wien. 1920. 70. p. (12). fig. 5-6.
The white C of the underside almost completely absent.
Transitional to the preceding form by the description but the figure shows no trace of the C.

ab. iota-album Newnham. Ent. Rec. 1894. 5. p. 12.
The white C of the underside reduced to a mere straight line.

ab. i-album Tutt. Brit. Butts. 1896. p. 346.
= uncipuncta H. Joseph. Verh. zool.-bot. Ges. Wien. 1919. 69. p. (57).
= i-album Masjowicz. Polsk. Pismo. Ent. 1923. 2. p. 126. fig. 3.
The white C of the underside in the form of an inverted letter i, thus ¡
Joseph's uncipuncta had a poorly marked on the underside divided into two parts, the upper ending in a hook, the lower merely a spot, the pattern agreeing with P. interrogationis.
The i-album of Masjowicz is presumably the same as Tutt's but I have not seen the original description.

ab. imperfecta Blachier. Ann. Soc. Ent. Fr. 1908. 77. p. 214.
The white C of the underside reduced to a mark more like the shape of an L or a J, the bottom part being rounded.

c-album Linn. continued.
underside forms.

ab. o-album Tutt. Brit. Butts. 1896. p. 346.
= o-album Newnham. Entom. 1917. 50. p. 230.
The white C of the underside replaced by an O.

ab. delta-album H. Joseph. Verh. zool.-bot. Ges. Wien. 1919. 69. p. (57) fig. 1-2.
The C mark of the underside in the form of a crooked ill-formed triangular figure, similar to the Delta, the Greek capital D.

ab. G-album Tutt. Brit. Butts. 1896. p. 346.
The C mark of the underside replaced by a G.

ab. subtusalbinotata Caruel. Rev. France. Lep. 1947. XI. p. 132.
Named from the figure in Esper Eur. Schmett. 1. pl. LXI fig. 3. which shows the normal white C mark on the underside but in addition awhite mark above it, similar to the C but somewhat smaller. It is situated near the costa. Still another white mark in the form of a dot is seen slightly nearer the margin.
Caruels figure is said to represent Esper's figure but it completely misses the main character, the white markings, no trace of these showing.

ab. p-album Bezsilla Folia Ent. Hung. 1943. 8. p. 69. fig.

A. iris Linn., aberrational forms, etc.

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iris Linnaeus. Syst. Nat. 1758. X. p. 476.

aberrational forms etc.

ab. viridans Cabeau. Rev. Mens. Soc. Ent. Nam. 1919. 19. p. 51.
The upperside showing a broad marginal band of brilliant green.

ab. junonia Cabeau. Rev. Mens. Soc. Ent. Nam. 1910. p. 34.
The upperside of the forewings normal. On the hindwings the transverse band is normal but the anal eye larger and surrounded by bright fulvous as are also the extreme points of the wings. The superior part of the hindwings, from the anterior border as far as the first marginal point, bright fulvous, the tint being prolonged into the clear antemarginal band.

ab. thaumantias Cabeau. Rev. Mens. Soc. Ent. Nam. 1910. p. 35.
The ground colour of the upperside is brilliant orange-fulvous marbled with brownish, the pattern normal. On the hindwings the base is brownish, slightly sanded with fulvous, the marginal band fulvous.

ab. pallida-pupillata Osthelder. Schmett. Sudbayern. 1925. 1. p. 72.
On the upperside the "eye" of the forewings is visible in the form of an irregularly shaped brownish-black spot with a whitish point in the middle.

ab. sari Heslop. Ent. Rec. 1961. 73. p. 58.
On the upperside of the hindwings the spot towards the tornus lacks both the ferrugineous patch surrounding it and also its whitish centre.

ab. obscurior Le Moult. Misc. Ent. (1946-47) 1947. 43. p. 72.
The normal violet reflections of the male are changed into pearly ones, tending more towards blue than violet.
Le Moult calls this "f. ind.", its meaning is not clear to me.

ab. atava Verity. Farf. Diurn. It. 1950. 4. p. 31.
The hindwings ornamented by three main fulvous lunules in the nervure 3C + R1 and M2 and an indication of a series of spots of which the fulvous ring of the ocellus forms a part.

ab. romaniszyni Schille. Polsk. Pismo Ent. 1924. 3. p. 3.
The violet reflections are bluer than usual, more extensive and more persistant in almost all lights.

ab. lutescens Schultz. Abb. Naturf. Ges. Gorlitz. 1900. 24. p. 129.
The light spaces are brilliant yellowish to more or less dark brown.
From a Verity description, original not seen.

ab. aurosquamosa Gillmer. Arch. Freund. Naturg. Mecklbg. .59. p. 52.
The black designs dusted with golden scales which are more dense on the hinder part of the forewings and fore part of the hindwings.
From a Verity description, original not seen.

ab.iole Schiffermuller. Wien Verz.1775.5.p.172.
The upperside completely black-brown with a blue shimmer and no white markings.

ab.hindenburgi Mecke. Int.Ent.Z.1926.20.p.117.fig.
Upperside of the forewings deep black with four small whitish obscured spots,two at the apex and two in the submargin. Hindwings deep black,the red ring spot hardly visible. The purple shimmer is retained but dark in tint. Underside of normal pattern but deep black and washed with grey.

ab.lugenda Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.34.
Forewings with three small white spots as in ab.afflicta Cabeau.These are in the form of a triangle,one apical,the second subapical and the third marginal.Hindwings with the white transverse band completely absent,one sees only some bluish hairs. There is no light antemarginal band and the "eye" at the anal angle is pupilled with bluish-grey.

ab.beroe Fabricius. Ent.Syst.1793.3.p.111.
Upperside wholly fuscous,shining with blue,except for two distinct white spots towards the apex of the forewings and an ocellus with rusty coloured iris towards th anal angle of the hindwings.
Only differs from the following ab.corax Cab.by its ground colour which in corax is strongly black.

ab.corax Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.34.
The ground colour of the upperside strongly black like the Crow with a strong bluish reflection.Forewings with only two white spots,the apical and second marginal,the third is absent or almost so. Hindwings with no trace of the transverse band,only some hairs of bluish-grey. The anal "eye" is not pupilled.

ab.cerberea Cabeau. Rev.Mens.Soc.Ent.Nam.1919.p.19.
Hindwings like ab.iole Schiff.on the upperside,with no transverse white band,but the forewings carrying six little whitish or greyish spots,very little visible,

ab.monophana Cabeau. Rev.Mens.Soc.Ent.Nam.1919.p.7.
Hindwings upperside with the median white band reduced to one white spot,the most inferior one,the rest browned over and almost effaced. Forewings like transtenuata Cabeau which has the white spots a little smaller than in the typical form.

ab.afflicta Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.33. (fig.Lamb.30.pl.3.f.1.)
Forewings with only three little white spots in the form of a triangle,the apical, subapical and second marginal. Hindwings without a clear marginal band or one scarcely indicated,the transverse band reduced to two or three little white spots, sometimes greyish,in the lower part of the wing,the upper spots being lost in the ground colour.Also belong to this form specimens with the forewings spots,apart from those mentioned above,showing in greyish but the hindwings band is always reduced as above.
The figure in Lamb.30.pl.3.f.1.shows the forewings with seven whitish spots so presumably the form is mainly characterised by the absence of a complete white band on the hindwings.

ab.dimeres Cabeau. Rev.Mens.Soc.Ent.Nam.1919.19.p.19.Like the preceding ab.afflicta Cabeau but with the external half of the hindwings brownish-yellow.

ab.vidua Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.33.
The ground colour brownish-black,darker than normal. Forewings with three to six very small white spots,mostly of a greyish tint. Hindwings with the white transverse band much reduced,composed of two or three little white spots in the lower part of t the wings,the upper ones are brownish-grey and sunk into the ground colour.The anal ocellus large and pupilled whitish-grey or blue.

ab.transtenuata Cabeau. Rev.Mens.Soc.Ent.Nam.1919.19.p.6.
Forewings with the white spots a little smaller than normal.Hindwings with the spots of the median white band very much reduced and isolated.The submarginal band strongly divided by neural rays of reddish-brown.

ab.penumbrata Cabeau. Rev.Mens.Soc.Ent.Nam.1919.19.p.7.
Forewings with three or four whitish or greyish spots,namely the subapical one and one or two of the submarginal. Hindwings with the median band formed by five inferior spots but reduced in size,clearly separated,and obscured,the sixth costal spot effaced or almost so.

ab.bureana Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.33.
Forewings with five or six little white spots,very small,those near the margin only are clear and white and larger than the others. Hindwings with the white band more reduced than in ab.stictica cabeau,which has a very narrow band composed of five or six separated spots.

ab.iolata Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.3. (fig.Lamb.30.pl.1.f.2)
= semi-iole Frohawk. Vars.Brit.Butts. 1938.p.107.pl.25.f.1-2.
Forewings with only five little white spots of which the apical one is almost effaced and the three irregular spots above the inner margin are absent.Hdwgs normal
The figure in Lamb.30.pl.1.f.2.shows only three white spots on the forewings and a normal complete white band on the hindwings. Presumably this is the main character the spots much reduced on the forewings but all present on the hindwings.
The figure of Frohawk's semi-iole is almost identical.

ab.immaculatus Esper. Eur.Schmett.1777.1.p.314.pl.XLVI.f.1.
= tetrica Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.33.
Esper's figure shows the forewings with only three white spots,a small apical one and two tiny ones below it.Hindwings with a transverse row of five white spots,the costal one being effaced
Verity rightly or wrongly makes this a synonym of iole Schiff.because in his text Esper calls it the Spotless form,he refers however to his figure which has white spots on both fore and hindwings.
Cabeau's tetrica has the forewings with three little white spots,the two apical and the first marginal. Hindwings with the band composed of five narrow white spots

ab.stictica Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.32.
Forewings somewhat paler than the type with eight or nine white spots,very small and clearly separated. The white band of the hindwings is very narrow,composed of four or five white spots separated by the black nervures which are pronounced,the other spots are greyish and sunk into the ground colour.

ab.deschangei Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.32.
Forewings usually with only nine white spots,smaller and not confluent. Hindwings with the white transverse band complete but narrower.

ab.diaphana Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.34.
Forewings showing only three white spots which are small,the apical,subapical and second marginal. The left hindwing with only four little whitish-grey spots in place of the transverse band,the right hindwing without any at all,the band being replaced by some bluish hairs.

ab.thaumantis Schultz. Soc.Ent.1903.17.p.161.
The pattern of the white spots is intensified on the upperside. The band of the hindwings is broader and the light spots on the inner-margin of the forewings and on the margin of the hindwings are strikingly larger,the latter,in the male,much clearer and larger than in the type.

ab.strandi Biezenko. Arch.Natur.1924.90.A5.p.241.pl.1.f.2.
The inward curve of the outline of the forewings below the apex is not developed its edge being straight from the apex to the tornus.

ab.maximinus Heslop. Entom.1960.93.p.253.
Male of normal coloration but the wing radius at least 1.7 inches,the size of the normal female.

ab.iridella Cabeau. Rev.Mens.Soc.Ent.Nam.1910.p.32. (name corrected on p.38.)
= iriella Cabeau. (name mispelled) Rev.Mens.Soc.Ent.Nam.1910.p.32.
A third smaller in size than normal.

ab.obscura Salzl. Ber.Nat.Ver.Regensburg.1916-23.p.34. (fig.Parf.Diurn.It,4.pl.38)
Verity's figure shows the underside with the areas normally chestnut,darkened by black dusting so that they appear blackish-brown.
I have not seen the original description.

ab.chattendeni Heslop.& Stockley. Ent.Rec.1961.73.p.80.(fig.Heslop Purple Emp.pl.17,f.b)
The underside of the forewings without a trace of the white band,the ocellus virtuall normal. There are two white subapical spots and the ground colour is deep blackish-brown. On the underside of the hindwings the light band is virtually normal in extent but heavily peppered with bluish-black scaling. The basal thord of the wing is bluish-grey,the middle third,except for the light band,rich deep chestnut,the terminal third grey,fainly suffused with light chestnut,and the terminal margin bluish-grey. The colour areas are sharply contrasted. The upperside is ab.lugenda Cabeau.

ab.sorbioduni Heslop. Ent.Rec.1961.73.p.59.(fig.Heslop Purple Emperor.pl.17.f.a.)
On the underside there is no trace of the normal ocelli. The normal white bands are wholly extinct,that of the hindwings being replaced as described below. The terminal third of fore and hindwings is in the main brown-grey without any ferruginous shading,but with a broken very slightly darker submarginal band. There is a brown patch at the apex of the forewings. There is a black mark and a brown patch at the tornus of the hindwings. the central third of both wings is occupied by a dull chestnut band which loses itself towards the tornus of the hindwings. On the hindwings this chestnut area has,extending along its middle and corresponding generally in position to the normal broad white band,a narrow broken buff band. The iris tooth-mark is discernible. A vague impression of this buff band is continued into the forewings in the direction of the apex and not along the line normally occupied by the normal white forewing markings. The basal third of both wings and a wide area along the dorsum of the hindwings are brownish-grey,shaded with ferruginous,and for the most part merging into the central chestnut area. No white patch in the basal half of the subcosta of the forewings but the normal black marks are present,nor any white

iris Linn. continued.

ab. sorbioduni Heslop. continued.
- mark, except just below the apical brown patch. There is black shading on all wings and a slight smokiness of the whole, resulting in a blurring of definition of the colour areas and a general dulling effect. There is a slightly bluish tinge in some of the lighter areas. The upperside is full iole Schiff.
It is doubtful whether an underside should have a different name from its upperside. Schiffermuller did not describe the underside of iole but it may be assumed that it was aberrant, as Heslop's specimen, and possibly identical.

iris aberrational forms etc.

Figures.

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camilla Linnaeus. Mus.Ludov.Ulr.1764. p.304.
= sibilla Linnaeus. Syst.Nat.1767.p.718.

Aberrational forms etc.

ab.lactofasciata Lempke. Tijdschr.Ent.1956.98.p.333.
The markings of the upperside not white but creamy.

ab.rufoannulata Verity. Farf.Diurn.It.1950.4.p.46.
On the tornus of the hindwings the last two submarginal black spots are clearly ringed with rusty red,more often in the female then male.Also at the apex of the forewings there are sometimes two similarly ringed spots.
Described in the text under "Variazioni" on p.46.,above the place where it is named.

ab.bifulvata Cabeau. Lamb.1926.26.p.74.
The forewings show a fulvous stripe on the discocellular vein and another in the cell.
Described as an aberration of Limenitis populi but Cabeau says that it probably occurs in camilla since he has a transitional form. Verity accepts this as being valid but actually the form is hypothetical.

ab.interrupta Lempke. Tijdschr.Ent.1956.98.p.333.
The white spot in the middle of the white band of the forewings which,as a rule,is quite small,fails.

ab.bifasciata Niepelt. Int.Ent.Z.1914.8.p.144.
This does not belong to camilla Linnaeus,as stated in Bang-Haas Catalogue,but to camilla Schiffermuller,quite a different species.

ab.completa Derenne. Lamb.1926.26.p.91.
On the forewings the white costal spot in the cell is obliterated.

ab.latealba Verity. Farf.Diurn.It.1950.4.p.46.
All the white spaces are larger than in the type form.
Verity's type(from France)had the banl of the hindwings 5 mm.wide.

ab.angustata Staudinger. Mem.Rom.1887.3.p.144.
The short description in Staudinger's Catalogue is somewhat vague,merely stating that the fasciae and white spots reduced. Possibly the same as the following.

ab.angustefasciata Streckfuss. Berl.Ent.Z.1891.36.p.3-b.VIII-IX.
= stenotaenia Honrath. Berl.Ent.Z.(1891)1892.36.p.440.
Upperside with the bands rather narrow,not half as wide as usual.
Honrath in his decription of stenotaenia mentions Streckfuss as having collected the form,so presumably it is the same as angustefasciata Steckfuss.

camilla Linnaeus. continued.

ab. obliterae Robson & Gardner. Young Nat. "List of Vars" 1886. p. 3.
= semi-nigrina Frohawk. Brit. Butts. 1914. p. 171. pl. 28. f. 23.
The white bands almost obliterated or suffused.
The form would seem to be transitional to the following obliterata Shipp in which the white bands are reduced to small patches or patch, this, also, sometimes obsolete. When no white reamins, the form belongs to nigrina Weymer.

ab. obliterata Shipp. Bull. Soc. Zool. Fr. 1895. 20. p. 14.
= obscurior Rebel. (Selys nom. nud.) Berge's Schmett. 1910. p. 19.
Almost all black with the nervures pale. A small patch of white scales at the anal angle of the hindwings, this sometimes also being obsolete. (this latter is nigrina)
The form obscurior was described but not named by Selys in Ann. Soc. Ent. Belg. 1. p. 25 1895 as being without white bands but Rebel, who names it, says that it is transitional to nigrina and therefore shows some white, even if sparse. Rebel's description must be accepted for the name.

ab. nigrina Weymer. Jahrber. Elberf. 1884. 6. p. 66. pl. 2. f. 4-5.
= nigra Cockerell. Entom. 1889. 22. p. 54.
The upperside completely black, the white bands entirely absent.
This covers the last part of the description of obliterata Shipp which says that the small white patch is sometimes also absent leaving the wings all black, nigrina having priority, only the first part of Shipp's description can apply to his obliterata.

ab. minor Derenne. Lamb. 1932. 32. Suppl. p. 22.
= minor Rocci. Misc. Ent. . 35. p. 37.
= parva Rocci. Mem. Soc. Ent. It. 1940. 19. p. 43.
Specimens of small dimensions.

ab. major Derenne. Lamb. 1932. 32. Suppl. p. 22.
Specimens of large dimensions.

ab. infraradiata Verity. Farf. Diurn. It. 1950. 4. p. 47.
Verity gives this name for examples of nigrina Weymer which have the underside rayed instead of the normal pattern. All specimens of nigrina which I have seen have the underside rayed, it would seem to go with the black upperside.

H. lucina Linn., aberrational forms, etc.

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lucina Linnaeus. Syst. Nat. 1758. X. p. 480.

aberrational forms etc.

ab. leucodes Lambillion. Rev. mens. Soc. Ent. Nam. 1913. p. 100.
The ground colour whitish instead of the usual fulvous.

ab. fulva Osthelder. Schmett. Sudbayern. 1925. 1. p. 134. pl. 6. f. 9-11.
Yellowish-brown with lighter black pattern, the basal area of the forewings yellowish-brown instead of yellowish-black.

ab. alba Gussich. Glasnik Hrvats. Prirodosl. Drustva. 1917. 29. p. 221.
The black basal marking of the forewings replaced by whitish.

ab. pallida Gussich. Glasnik Hrvats. Prirodosl. Drustva. 1917. 29. p. 221.
All bands and spots white.
Presumably this means the tawny areas, leaving the ground colour white.

ab. gracilens Derenne. Lamb. 1927. 27. p. 11.
All the black bands reduced, allowing an extension of the ground colour.

ab. obscura Aigner. Ann. Mus. Nat. Hung. 1906. 4. p. 514. fig. 23.
Much darker than the type.
The figure shows the tawny areas very much reduced on all wings, the extreme margins filled in with black, especially on the forewings. All wings show much more black than fulvous.

ab. obsoleta Tutt. Brit. Butts. 1896. p. 211.
= browni E. B. (Oberth. in litt.) Cat. Lep Fr. 1923. p. 72. Cat. Lep. Gironde 1928. p. 36.
The small black dots just before the margins are completely absent on all wings.
The figure of browni in Lamb. 35. pl. 7. f. 4 shows the marginal dots absent on all wings, the margins are said to be whitish-yellow instead of fulvous. I have not seen the original description.

ab. albomaculata Blachier. Bull. Soc. Lep. Gen. 1909. 1. p. 379. pl. 9. f. 3.
= constellata Lambillion. Rev. Mens. Soc. Ent. Nam. 1913. 13. p. 100.
The median spots of the hindwings upperside are white instead of tawny.

ab. erica Stephan. Z. Wiss. Ins. Biol. 1924. 19. p. 49.
The median spots of the hindwings upperside white as in the preceding albomaculata but elongated into streaks instead of spots.

ab. semibrunnea Osthelder. Schmett. Sudbayern. 1925. 1. p. 134. pl. 6. f. 7.
Upperside of the hindwings uniformly black as far as the fulvous marginal band.
The figure shows a slight trace of the median spots, probably showing through from the underside.
Osthelder gives Vorbrodt as the author and Bang-Haas gives a reference Schmett. Schweiz. 1911. 1. p. 105 but I can find no mention there.

lucina Linn. continued.

Race ? parvifulvior Verity. Ent.Rec.1923.35.Suppl.p.(13).
Verity gives this name to the English race comparing it with race fulvior Rocci which is larger in size and shows extensive warm toned ground colour.His specimens were collected at Ipswich and are like fulvior Rocci but of normal size and therefore smaller. The name can be used if desired but it would seem an unnecessary one,English specimens differing very little from the type.

ab.nana Stephan. Z.Wiss.Ins.Biol.1924.19.p.49.
Small specimens measuring 11-12 mm.

C. minimus Fuessel. aberrational forms.

alcetoides Tutt	2.
alsus F.	1.
c eca Courv.	2.
caerulescens Tutt	1.
elongata Courv.	2.
elongata Kief.	2.
extrema Tutt.	2.
latecaerulea Vty.	1.
magnipuncta Tutt.	1.
major Tutt.	2.
minor Tutt.	2.
minutissima Steph.	2.
minutus Esp.	2.
obsoleta Tutt.	1.
pallida Tutt.	1.
parvipuncta Tutt.	1.
paucipuncta Courv.	1.
pseudolus Bergstr.	1.
semioboleta Tutt.	1.
simplex Augn.	1.
striata Baynes.	2.
striata Tutt.	2.
violascens Tutt.	1.
viridescens Tutt.	1.

minimus Fuessl. Verz. Schweiz Ins. 1775. p. 31.
= pseudolus Bergstrasser. Nom. 1779. 3. p. 5. pl. 44. f. 6.
= alsus Fabricius. Mant. Ins. 1787. 2. p. 73.

Aberrational forms etc.

ab. viridescens Tutt. Brit. Lep. 1908. K. p. 105.
Male with the normally blue scaling replaced by green.

ab. violascens Tutt. Brit. Lep. 1908. K. p. 105.
Male with the blue scaling of the upperside of a violet tint.

ab. caerulescens Tutt. Brit. Lep. 1908. K. p. 105.
Male with pale blue scaling on the upperside.

ab. pallida Tutt. Brit. Butts. 1896. p. 161.
Male with the upperside of a pale grey tint.

ab. latecaerulea Verity. Farf. Diurn. It. 1943. 2. p. 97. pl. 7. f. 54.
On the upperside three quarters of the wings from the base are broadly blue-scaled leaving the remaining quarter as a blackish margin.

underside forms.

ab. parvipuncta Tutt. Brit. Lep. 1908. K. p. 108.
On the underside the spots are very small.

ab. magnipuncta Tutt. Brit. Lep. 1908. K. p. 108.
On the underside the spots are exceptionally large.

ab. semiobsoleta Tutt. Brit. Lep. 1908. K. p. 110.
On the underside the spots of the hindwings reduced to vanishing point or entirely absent. The forewings normal or almost so.

ab. obsoleta Tutt. Brit. Butts. 1896. p. 161.
= simplex Aigner. Rov. Lapok. 1900. p. 144.
= paucipuncta Courvoisier. Iris 1912. 26. p. 63.
The spots of the underside almost obsolete.

minimus Fuessl. continued.
(underside forms)

ab.caeca Courvoisier. Z.Wiss.Ins.Biol.1907.3.p.75.
= extrema Tutt. Brit.Lep.1908.K.p.108.
On the underside all spots except the discoidals are absent.
Courvoisier says the discoidal spots may also be absent.

ab.alcetoides Tutt. Brit.Lep.1908.K.p.108.
On the underside of the forewings the last two submedian spots, those near the inner margin, are placed out of line with the rest, making it bent.

ab.striata Tutt. Brit.Lep.1908.K.p.110.pl.4.f.8.
= elongata Courvoisier. Ent.Z.1910.24.p.p.210.
= elongata Kiefer. Z.Ost.Ent.Ver.1938.23.p.67.
= striata Baynes. Entom.1941.74.p.100.fig. 1?
On the underside of the hindwings the spots are longated into small dashes.
The figure shows the forewings almost obsolete, the hindwings with a series of three marginal streaks, the longest nearest the anal angle. There is also a black costal spot towards the base.
Courvoisier's elongata was named from Tutt's figure.
Kiefer's description agrees almost exactly with Tutt's figure.
Baynes figure shows three streaks on one wings and two on the other so is not so extreme, Tutt's figure showing three streaks and a spot on each wing.

ab.major Tutt. Brit.Lep.1908.K.p.107.
Large specimens over 24 mm.

ab.minor Tutt. Brit.Lep.1908.K.p.107.
= minutissima Stephan. Iris.1923.27.p.45.
Small specimens under 19 mm.
Stephan's minutissima can be separated if so desired because it was less than 14 mm but covered by Tutt's minor.

ab.minutus Esper. Eur.Schmett.Suppl.1787.pt.1.p.71.pl.CVI.fig.8.
The figure is apparently of a small minimus but the fringes of the fore wings are chequered. If this is correct it is a most unusual form and cannot be treated merely as a dwarf.

P. argus Linn. abarrational forms, etc.

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P. argus Linn. abarrational forms. etc.

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argus Linnaeus. Syst. Nat. 1758. A. p. 483.
= aegon Schiffermuller. Wien Verz. 1775. p. 183.

aberrational forms etc.

argus
subsp. masseyi Tutt. Ent. Rec. 1909. 21. p. 58.
= var. corsica Massey. Ent. Rec. 1895. 7. p. 127.
The subspecies or race from the "mosses" of Westmorland and Lancashire border. The males are possibly of a paler blue than other English forms and somewhat smaller but the females are remarkable for their much more blue coloration. Generally speaking these are blue at the base extending to the centre of the forewings where the normal fuscous appears, the blue again appearing as a transverse shade from the costa down to the inner margin but leaving a broad outer band of fuscous. The hindwings shaded entirely blue.
There is of course variation in the amount of blue, some females showing far less. Massey thought this form to be the same as the Corsican one.

argus
subsp. cretaceus Tutt. Ent. Rec. 1909. 21. p. 58. (fig. Lep. Brit. 1909. A. pl. 4. f. 11-12)
The subspecies or race from the chalk districts of Kent.
Male upperside bright blue, the dark margin of the forewings narrow or absent, the discoidal spot of the hindwings absent and the marginal band is replaced by small black interneural spots. The underside of the male bluish-grey.
Female upperside dark fuscous, often scaled with blue, the orange lunules on the hindwings poorly developed and usually obsolete on the forewings. Underside pale brownish with well-defined spots and whitish submarginal border.
Generally speaking this chalk form appears larger than most other British forms.

subsp. cretaceus
ab. major Bright & Leeds. Mon. Coridon Addenda 1941. p. 139.
Specimens of cretaceus of more than 30 mm.

subsp. cretaceus
ab. minor Bright & Leeds. Mon. Coridon Addenda 1941. p. 139.
Specimens of cretaceus of less than 25 mm.

subsp. cretaceus
ab. minutissimus Bright & Leeds. Mon. Coridon Addenda 1941. p. 139.
Specimens of cretaceus of less than 23 mm.

argus
subsp. caernensis Thompson. Pamphlet description 1937.
Subspecies from the Welsh coast
Much smaller than the argus from any other British locality, the females showing a considerable amount of blue scaling.

argus aberrational forms.

ab. purpurascens Tutt. Brit. Lep. 1909. X. p. 173.
Male. The upperside bright purple blue. The common form.

ab. caeruleus Tutt. Brit. Lep. 1909. A. p. 173.
Male. The upperside brilliant violet-blue.

argus Linnaeus. continued.

ab.lilacina Tutt. Brit.Lep.1909.X.p.173.
= lavendula Wykes. Entom...1945.78.p.1.
Male. The upperside of a lilac or lavender tint.

ab.pallida Tutt. Brit.Lep.1909.X.p.173.
Male. The upperside lilac almost pinkish in tone.

ab.plumbeous Tutt. Brit.Lep.1909.X.p.174.
Male. The upperside blue-grey or slaty,with a rather narrow border and very small discoidal spots.

ab.obscura Grund. Int.Ent.Z.1908.2.p.71.
Male. The upperside of the wings so entirely blackened that only a slight blue shimmer is perceptible. Underside normal but slightly darkened.

ab.mirabilis Mezger. Lamb.1935.35.p.188.
Male. The upperside of the forewings white with a slight violet sheen,the nervures and the broad border of a brownish hue. Underside pattern normal except for the two lowest submedian spots which are absent,the ground colour white with the spots little more than mere dots of a yellow brown tint.
Almost certainly a pathological form.

ab.marginepuncta Tutt. Brit.Lep.1909.X.p.174.
= punctifera Courvoisier. Verh.Nat.Ges.Basel 1910.21.p.158.
Male. On the upperside of the hindwings a row of well-developed black spots along the margin.

ab.angusta-marginata Tutt. Brit.Lep.1909.X.p.174.
Male. On the upperside the marginal borders are very narrow.

ab.angustimargo Vorbrodt. Mitt.Schweiz Ent.Ges.1921.13.p.180.
Male.On the upperside of all wings the usual dark marginal border is absent.

ab.intermedia-marginata Tutt. Brit.Lep.1909.X.p.174.
Male. On the upperside the marginal borders are moderate,e.g.-up to one quarter of the wing expanse. This would seem to be a very wide border by our English series.

ab.lata-marginata Tutt. Brit.Lep.1909.X.p.174.
Male. On the upperside the marginal borders are wide,e.g.-more than one quarter of the wing expanse.

ab.bella Herrich-Schaffer. Syst.Bearb.1842.1.p.127.pl.49.Suppl.
= rufolunulata Reverdin. in Tutt's Brit.Lep.1909.X.p.187.(May)
= rufolunulata Reverdin. Bull Soc.Lep.Gen.1909.1.p.373.
Male.On the upperside of the hindwings two orange spots above the black marginal dots.
Reverdin's rufolunulata was a male with tawny lunules surmounting the black marginal dots of the hindwings.
Tutt published Reverdin's description and name before Reverdin's own article appeared in the Bull.Soc.Lep.Gen..In this Reverdin,in error,on his plate used the name "rufomaculata",plate 10.f.1.

argus Linn. continued.

ab.disco-obsoleta Tutt. Brit.Lep.1909. K.p.176.
Male. On the upperside the discoidal spots are absent on all wings.

ab.disco-anteriora Tutt. Brit.Lep.1909. K.p.176.
Male. On the upperside the forewings show discoidal spots but on the hind wings they are absent.

ab.disco-posteriora Tutt. Brit.Lep.1909. K.p.176.
Male. On the upperside the discoidal spots are present on the hindwings but absent on the forewings.

ab.disco-lunulata Tutt. Brit.Lep.1909. K.p.176.
= lunulata Tykes. Entom...1945.78.p.2.
Male. On the upperside of both fore and hindwings discoidal spots are present.

ab.alcippe Stephens. Ins.Cat.1829.(2).p.25.
Male. Smaller than normal with the wings narrower and with broad black margins to all wings.

ab.minor Tutt. Brit.Lep.1909. K.p.174.
Small specimens under 23 mm.

ab.minutissimus Tutt. Brit.Lep.1909. K.p.173.
Tiny specimens under 21 mm.

ab.major Tutt. Brit.Lep.1909. K.p.172.
Large specimens over 27 mm.

4. argus Linn. continued.
(female forms)

ab.fulvescens Tutt. Brit.Lep.1909.K.p.204.
Female. The upperside pale fulvous-tawny, the exact colour of C.pamphilus.

ab.nigrescens Tutt. Brit.Lep.1909.K.p.181.
= atrescens Wykes. Entom..1945.78.p.2.
Female. The upperside darker than normal, almost blackish.

ab.bina Rostagno. Bull.Soc.Zool.It.1906.7.p.263.
= fuscus Tutt. Brit.Lep.1909.K.p.180.
= brunnea Courvoisier. Ent.Z.1910.24.p.93.
Female. The upperside uniformly fuscous with no orange marginal lunules.

ab.anterocroceus Tutt. Brit.Lep.1909.K.p.182.
Female. The upperside fuscous and with orange marginal lunules on the forewings only.

ab.posterocroceus Tutt. Brit.Lep.1909.K.p.181.
Female. The upperside fuscous and with orange marginal lunules on the hindwings only.

ab.croceolunulatus Tutt. Brit.Lep.1909.K.p.181.
= peraurantia Wykes. Entom...1945.78.p.2.
Female. The upperside fuscous and with orange marginal lunules on all four wings.

ab.croceovirgatus Tutt. Brit.Lep.1909.K.p.181.
= aurofasciata Vorbrodt. Mitt.Schweiz Ent.Ges.1914.13.p.180.
Female. The upperside fuscous and with an orange marginal band on all four wings caused by the joining up of the usually separated lunules.

ab.croceosemivirgatus Tutt. Brit.Lep.1909.K.p.181.
Female. The upperside fuscous with an orange marginal band on the hindwings caused by the joining up of the lunules. Forewings with no such band.

ab.flavodentata Stauder. Iris 1914.28.p.119.
Female. The upperside showing a reddish-yellow serrated marginal band on all four wings.
Very similar to croceovirgatus Tutt but apparently noticeably toothed on its inner side so kept separate.

ab.flavuslunulatus Tutt. Brit.Lep.1909.K.p.181.
= flavescens Wykes. Entom...1945.78.p.3.
Female. The upperside fuscous with marginal lunules on all four wings. The lunules yellow instead of orange.

ab.posteroflavus Tutt. Brit.Lep.1909.K.p.181
Female. The upperside fuscous and on the hindwings only a row of marginal lunules which are yellow instead of orange.

ab.flavusvirgatus Tutt. Brit.Lep.1909.K.p.181.
Female. The upperside fuscous with a yellow marginal band on all four wings. Similar to croceovirgatus but the band yellow instead of orange, the band being formed by the joining up of the lunules.

ab.flavus-semivirgatus Brit.Lep.1909.K.p.181.
Female. The upperside fuscous and on the hindwings only, a yellow band formed by the joining up of the marginal lunules.

ab.albopunctata Galvagni & Preissecker. Jahresb.Wien Ent.Ver.1911.22.p.136.
Female. On the upperside the marginal lunules are white, as in C.virgaurae ab. albopunctata Huene.

ab.albomarginatus Tutt. Brit.Lep.1909.K.p.181.
Female. White edging to the marginal spots on their external side, most usual on the hindwings.

ab.cincta Wykes. Entom..1945.78.p.3.
Female. The marginal spots ringed with white.

ab.caeruleomarginatus Tutt. Brit.Lep.1909.K.p.181.
=caeruleo-marginata Lange. Iris 1924.38.p.134.
Female. Blue edging to the marginal spots on their external side, most usual on the hindwings.

ab.antialboradiosa Bright & Leeds. Mon.Coridon Addenda 1941.p.140.
Female. On the upperside of the forewings most of the veins are whitish or white.

ab.postalboradiosa Bright & Leeds. Mon.Coridon Addenda 1941.p.140.
Female. On the upperside of the hindwings the veins are whitish from the outer border for some distance inwards.

ab.alboradiosa Bright & Leeds. Mon.Coridon Addenda 1941.p.140.
Female. On the upperside of both fore and hindwings the veins are whitish, especially towards the margins.

ab.caerulescens Tutt. Brit.Lep.1909.K.p.180.
= radio Wykes. Entom.1945.78.p.2.
Female. The upperside fuscous scaled with blue of a rather bright tint on all four wings. There are no marginal lunules.

ab.posterocaerulescens Tutt. Brit.Lep.1909.K.p.180.
= semisuffusa Thompson. Pamphlet description "Plebejus argus" 1937.p.5.
Female. The upperside of the forewings fuscous, the hindwings scaled with blue. No marginal lunules present.

ab.violascens Tutt. Brit.Lep.1909.K.p.181.
Female. On the upperside the blue scaling of a more violet tint.

ab.croceopostcaerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with orange marginal lunules on the hindwings only.
Tutt does not restrict the blue scaling to any particular area or wings.

ab.croceocaerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with orange marginal lunules on all four wings.
Tutt does not restrict the blue scaling.

ab.croceosemivirgatus-caerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with an orange marginal band on the hindwings only,caused by the joining up of the marginal lunules.

ab.croceovirgatus-caerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with an orange marginal band on all four wings caused by the joining up of the lunules.

ab.flavuspostcaerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with yellow lunules,replacing the normal orange ones,on the hindwings only.

ab.flavuscaerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with yellow lunules on all four wings instead of the usual orange ones.

ab.flavus-semivirgatus-caerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with a yellow marginal band on the hindwings only caused by the joining up of the lunules. The yellow replaces the normal orange.

ab.flavusvirgatus-caerulescens Tutt. Brit.Lep.1909. X.p.181.
Female. The upperside fuscous scaled with blue and with a yellow marginal band on all four wings caused by the joining up of the lunules. The yellow replaces the normal orange.

ab.caerulea Tutt. Brit.Lep.1909. X.p.183.
= caerulea Courvoisier.(nom.preoc.Tutt.) Ent.Z.1910.24.p.93.
= splendida Thompson. Pamphlet description"Plebejus argus" 1937.p.5.
Female. The upperside entirely pale blue with narrow black margins inside the white fringes and a series of pale whitish marks in place of the orange marginal lunules of the forewings. The hindwings show white edging to the marginal spots. The forewings have the discoidal spot present but it is very faint on the hindwings.
Courvoisier's caerulea had all four wings blue except for a narrow black margin and would seem to be generally the same as Tutt's.
Thompson's splendida was a female of the subsp.cairnensis entirely suffused with blue.It can be kept separate under cairnensis if desired.

ab.caerulescens Petersen. Lep.Faun.Estland 1902.p.36.
Possibly the same as the preceding but may be racial in Estland.
Female.The upperside of the wings dusted with blue.

 argus Linn. continued.

ab.pseudomasseyi Thompson. Pamphlet description "Plebejus argus" 1937.p.9.
Female. All wings suffused with blue except for a circular patch in the disc of the forewings.
Described under the subsp.cairnensis and may be separated under that subspecies if desired.

ab.falloui Tutt. Brit.Lep.1909.4.p.188.
Female. Blue scaling on the upperside of all four wings but chiefly on the hindwings. On the forewings whitish rays from the margins pointing inwards towards the base and white discoidal spots on both fore and hindwings.

ab.caeruleo-cuneata Ebert. Soc.Ent.1908.22.p.169.
= pulchrina Thompson. Pamphlet description "Plebejus argus" 1937.p.9.
= caerucuneata Tykes. Entom..1945.78.p.2.
Female. On the upperside of the hindwings narrow sky-blue wedges or rays set close to the orange marginal lunules,their points reaching almost to the base of the wings. Some blue scales also at the base.
Thompson's pulchrina was described under the subsp.cairnensis and can be separated under that subspecies if desired but the form occurs in all races.

ab.duplex Cockerell. Entom.1889.22.p.6.
Female. The upperside of the right side wings brown,the left side blue.
This is not an intersex,it is the blue form female combined with the brown form.

ab.inaequalis Cockayne. Trans.Ent.Soc.1922.p.227.pl.VII.f.1.
On the upperside one or more streaks of blue scales without admixture, the wings equal in size. Underside and genitalia female.

ab.lepontoisi Glais. Enc.Ent.1926.9.Series B.p.116.pl.6.f.8.& 11.
Probable homoeosis. The figure shows two examples,fig.8 shows a patch of underside pattern in the centre of the upperside of each forewing. Fig.11 is similar.
By the figures it would seem most unlikely that these are the spots of the underside showing through on the upperside,their white circles are so well defined,yet it is remarkable that two individuals should show the same symmetrical pattern if it is homoeosis. The four submedian spots of the forewings underside appear drawn in closely around the discoidal spot and show clearly on the upperside.

ab.furvescens Tykes. Entom.1945.78.p.3.
On the upperside the marginal lunules are partially or completely clouded by brown scaling. On the underside the lunules are brown-red.
Placed also as an underside form on page 11 of these notes.

argus Linn. continued.
(underside forms)

ab.parvipuncta Courvoisier. Mitt.Schweiz Ent.Ges.1903.11.p.24.
=.parvipuncta Tutt. Brit.Lep.1909.4.p.177.
On the underside the spots are very small.
Lempke gives Courvoisier as the author since Courvoisier says it occurs in aegidion which is a subspecies of argus.

ab.magnipuncta Tutt. Brit.Lep.1909.4.p.177.
= crassipuncta Courvoisier. Verh.Nat.Ges.Basel 1910.21.p.158.
On the underside the spots are exceptionally large and sometimes extended.

ab.crassipuncta Glais.(nom.preoc.Courv.1910) Enc.Ent.1926.3.Series.B.p.119.pl.6.
The figure shows the underside with extraordinary discoidal spots on all four wings. These are very large,four or five times normal size and roughly triangular, their points towards the margins.

ab.irregularis Tutt. Brit.Lep.1909.4.p.177.
= transiens Sykes. Entom.1945.78.p.4.
Underside with unequal or irregularly formed spots,the third and fifth submedians usually more extended.

ab.linea Tutt. Brit.Lep.1909.4.p.177.pl.4.f.20.
Underside with the submedian spots of the forewings,fifth,sixth and seventh,drawn inwards to beneath the discoidal spot and forming a straight line downwards to the inner margin.

ab.glomerata Tutt. Brit.Lep.1910.(I.p.16.
The submedian spots of the forewings underside drawn in close to the discoidal and with the basal spot forming a sort of semicircle around it.
Described under L.coridon.

ab.discreta Tutt. Brit.Lep.1910.(I.p.16.
On the underside of the forewings the submedian spots are thrown back from the discoidal spot against the inner margin and form an almost straight line.
Described under L.coridon.

ab.anticoradiata Tutt. Brit.Lep.1909.4.p.177.
= discoelongata Sykes. Entom.1945.78.p.3.
Underside of the forewings with the second,third,fourth and fifth submedian spots extnded inwards as streaks. Hindwings normal.

ab.postdiscoelongata Sykes. Entom.1945.78.p.4.
Underside of the hindwings the submedian spots show a tendency to extend inwards.

ab.maritimus Stephens. Ins.Cat.1829.1.pt.2.p.45.
On the underside of the forewings the submedian spots extend towards the base in longitudinal streaks. Hindwings with one extended spot on the costa.
Very similar to the following form radiata Oberth.,which is slightly more extreme on the hindwings.

argus Linn. continued.
(underside forms)

ab.radiata Oberthur. Etudes 1896.20.pl.4.f.62. p.48.
Underside of the forewings with the submedian spots extended towards the base in streaks. Hindwings with the topmost submedian spot connecting with a marginal chevron and the lowest submedian with the lowest basal spot.
Very similar to the preceding maritimus Steph.

ab.addenda Tutt. Brit.Lep.1909.X.p.179.
= pluripuncta Courvoisier. Iris 1912.26.p.58.
Underside of the forewings with small extra spots appearing in the area between the submedian spots and the discoidal spot.

ab.juncta Wykes. Entom.1945.78.p.3.(nom.preoc. Tutt.)
On the underside of the forewings the submedian spots are connected with the discoidal spot by a series of tiny spots.

ab.mediojuncta Tutt. Brit.Lep.1909.X.p.179.
= discojuncta Courvoisier. Iris1912.26.p.50.(fig.Vorbrodt Schmett. Schweiz vol.1.diag.
On the underside of the forewings the discoidal spot is connected with its opposite submedian spot or spots.

ab.costajuncta Tutt. Brit.Lep.1909.X.p.178.pl.4.f.16.
= costojuncta Courvoisier. Iris 1912.26.p.50.
Underside of the hindwings with the topmost submedian spot united with the upper basal spot,to form a short streak.

ab.limbojuncta Courvoisier. ? see Iris 1912.26.p.50.
Several authors include this form under argus because Courvoisier says that it occurs in "argus",but at that time he was using "aegon" for the present species. On the same page however he mentions "limbo-retrojuncta" as occuring in aegon. The description says the topmost submedian is connected with its opposite marginal chevron,to form a short streak.

ab.limbo-retrojuncta Courvoisier. Iris 1912.26.p.51.
Underside of the hindwings with the topmost submedian spot connecting with a marginal chevron,also the third basal spot connecting with its opposite submedian,to form two short streaks.

ab.basijuncta Tutt. Brit.Lep.1909.X.p.179.
= retrojuncta Courvoisier. Iris 1912.26.p.50.,
Underside of the hindwings with the third basal spot connecting with its opposite submedian spot in a streak

ab.costo-retrojuncta Courvoisier. Iris 1912.26.p.51.
Underside of the hindwings with the topmost submedian spot connecting with the upper basal spot,also the third basal spot connecting with an opposite submedian spot, two short streaks are thus formed.

ab.imojuncta Courvoisier. ? see Iris 1912.26.p.50.
Several authors include this form with this reference but Courvoisier did not include it under this species,either as "argus" or "aegon".

argus Linn. continued.
(underside forms)

ab.parallela Courvoisier. ? see Iris 1912.26.p.52.
Courvoisier included this form under "argus" but at that time was using "aegon" for the present species so if the form occurs in the Silver Studded Blue,Courvoisier is not the author.
On the underside of the forewings the third and fourth submedian spots connect with the discoidal spot in two streaks.

Formae transversae Courvoisier. Iris 1912.26.p.56.
This was merely a Group name,not an individual aberration as some authors state, calling it ab.transversa incorrectly.

ab.transversa Wykes. Entom.1945.78.p.5.
On the underside two or more submedian spots unite transversely.

ab.approximata-juncta Tutt. Brit.Lep.1909.X.p.186.
Transitional to the following juncta Tutt. On the underside of the forewings the submedian spots are elongated outwards towards the marginal spots and the marginal spots towards the submedians but just fall short of uniting.

ab.juncta Tutt. Brit. Lep.1909.X.p.178.
= radiata Courvoisier. Iris 1912.26.p.53.
= striata Frohawk. Vars.Brit.Butts.1938.p.116.
On the underside of all four wings the submedian spots connect with the marginal chevrons in bars or short streaks.

ab.extrema Courvoisier. Z. Wiss. Ins. Biol.1907.3.p.37.pl.1.f.24.
On the underside of all four wings there is a streak from the base to the discoidal spot and the submedian spots are united with the marginal chevrons in bars or short streaks. The discoidal spot is sometimes united with the submedians.
This is the most extreme form of striation.

ab.tribasijuncta Courvoisier. Iris 1912.26.p.52.pl.5.f.4.
Underside of the hindwings with three basal spots uniting with opposite submedian spots,e.g.-the middle basal to the discoidal and two others to submedians.

ab.virgularia Wykes. Entom.1945.78.p.5.
On the underside the two "twin" submedian spots unite or are joined to the marginal chevrons.

ab.obsoleta-juncta Tutt. Brit.Lep.1909.X.p.178.
On the underside of the forewings the submedian spots are absent but on the hindwing the submedians are united with the marginal chevrons in streaks or bars.

ab.unipuncta Mousley. Ent. Rec.1902.14.p.341.
= unipuncta Tutt. Brit.Lep.1909.X.p.177.
= basinovopuncta Courvoisier. Iris 1912.26.p.58.
On the underside of the forewing there is a basal spot,in the typical form there are no basal spots.

argus Linn. continued.
(underside forms)

ab. unielongata Wykes. Entom. 1945. 78. p. 3.
On the underside of the forewings there is a basal spot, elongated and well-marked.

ab. bipuncta Muschamp. Ent. Rec. 1915. 27. p. 122.
On the underside of the forewings there are two basal spots.

ab. cuneata Tutt. Brit. Lep. 1909. X. p. 178.
On the underside the black inward edges of the marginal lunules form a series of cuneiform spots, their points towards the base. All the submedian spots are absent.

ab. sagittata Courvoisier. Iris. 1912. 26. p. 47. pl. 4. f. 3.
On the underside and elongation of the marginal "moons" (chevrons) towards the submedian spots, on the hindwings particularly.
Similar as regards the marginal chevrons to the preceding, but the submedian spots are present.

ab. fuscescens Lempke. Tijdschr. Ent. 1955. 98. p. 298.
On the underside the orange marginal lunules are replaced by brown-black, nearly as dark as the chevrons.

ab. furvescens Wykes. Entom. 1945. 78. p. 3.
On the underside the marginal lunules are brown-red instead of orange. On the upperside they are partially or wholly clouded by brown scaling.
Placed also as an upperside form on page 7 of these notes.

ab. flavescens Tutt. Brit. Lep. 1909. X. p. 179.
On the underside the normally orange marginal lunules are replaced by yellow.

ab. aurantiextensa Wykes. Entom. 1945. 78. p. 4.
On the underside the marginal lunules form a complete border up to 3 mm. wide, extending up to the forewings.

ab. leodorus Gerhard. Mon. 1853. p. 13. pl. -3.
= inornata Grund. Int. Ent. Z. 1913. 7. p. 147.
On the underside there are no metallic or silver scales on the marginal spots.

ab. argyrophalara Bergstrasser. Nom. 1779. 3. p. 10. pl. 54. f. 1-2.
Underside differing chiefly in that only one of the hindwings marginal spots shows a silvery kernel. The submedian spots in the figure are very much bowed into a semicircle around the discoidal spot but are no nearer to it.

(p. 77.

ab. argyrotoxus Bergstrasser. Nom. 1779. 2. pl. 47. f. 3-4.
= argyra Bergstrasser. Nom. 1779. 2. pl. 47. f. 5-6. p. 78
On the underside of the hindwings five or six of the marginal spots show silvery kernels.

argus Linn. continued.
(underside forms)

ab. septemargenteoguttata Bright & Leeds. Mon. Coridon Addenda 1941. p. 199.
On the underside of the hindwings there are seven silvery studs on the outer border, counting the "twin-spots" as one spot. Described from a ♀ cretaceus.

ab. chrysophthalma Stauder. Iris 1915. 29. p. 29.
On the underside of the hindwings the marginal spots are completely metallic or silver, no black remaining.

ab. rufescens Tutt. Brit. Lep. 1909. X. p. 179.
= aurescens Wykes. Entom. 1945. 78. p. 3.
On the underside the orange lunules are replaced by red.
This form should follow ab. flavescens Tutt on page 11 of these notes.

ab. cordata Tutt. Brit. Lep. 1909. X. p. 179.
On the underside the discoidal spot is heart-shaped.

ab. impunctata Tutt. Brit. Lep. 1909. X. p. 179.
Underside with the discoidal spots absent on all wings.

ab. anticoimpunctata Tutt. Brit. Lep. 1909. X. p. 179.
Underside with the discoidal spot of the forewings absent.

ab. posteroimpunctata Tutt. Brit. Lep. 1909. X. p. 179.
Underside with the discoidal spot os the hindwings absent.

ab. obsoleta Tutt. Brit. Lep. 1909. X. p. 179.
Underside of the forewings with the spots six and seven absent.
It seems somewhat extraordinary that Tutt should tie his obsoleta to this descriptio

ab. privata Courvoisier. Ent. Z. 1910. 24. p. 94.
= paucipuncta Courvoisier. Vorbrodt Schmett. Schweiz 1911. 1. p. 128. fig. Courv. Diagr.
On the underside the spots more or less obsolete.

ab. caeca Grund. Int. Ent. Z. 1908. 2. p. 71.
Underside with all the spots, with the exception of two small ones on the right hindwing, absent. The discoidal spots weakly marked.

ab. extrema Tutt. (nom. preoc. Courv. 1907). Brit. Lep. 1909. X. p. 179.
= obsoleta Frohawk. (nom. preoc. Tutt 1909.) Vars. Brit. Butts. 1938. p. 116.
Underside with all the spots, except the discoidals, absent.
Both of these names are preoccupied so neither can stand.

ab. infraobscura Lempke. Tijdschr. Ent. 1955. 98. p. 298.
On the underside the ground colour of the wings is black-grey.

argus Linn. continued.
(underside forms)

ab. ultranubila Wykes. Entom. 1945. 78. p. 3.
On the underside the normally white parts are clouded over with fawn or greyish suffusion.

ab. albocrenata Wykes. Entom. 1945. 78. p. 3.
On the underside of the forewings the space between the margin and the submedian spots is white.

ab. postalba Wykes. Entom. 1945. 78. p. 3.
On the underside the hindwings are white except the basal area.

ab. joannisi Glais. Enc. Ent. 1926. 3. Series B. p. 119. pl. 6. f. 4.
Peroneural defect. The figure shows no veins, the underside of the forewings with the submedian spots forming a transverse line, completely joined together in the upper part, becoming less joined down towards the inner margin. The marginal black spots are similarly joined together to form a continuous line. Hindwings with the submedian spots joined and forming a strong black transverse line, the marginal spots less strongly joined and not so thick. A black bar or streak in the cell through the uniting of the discoidal spot with a basal spot.

ab. albocrenata [illegible] vol 8. p. 154
ab. ? [illegible] vol 8. p. 154

A. agestis Schiff. forms,

INDEX

1. Aricia R.L.

agestis Schiffermuller. Wien Verz.1775.p.84.
= medon Hufnagel. (homonym medon Linn.)Berl.Mag.1776.4.p.78.
= astrarche Bergstrasser. Nom.1780.3.p.4.pl.49.f.7-8.

aberrational forms etc.

agestis
subsp.artaxerxes Fabricius. Syst.Ent.1793.3.pt.1.p.297.
The upperside black-brown with a white median spot on the forewings. Underside grey with a white discoidal spot and red marginal lunules. Hindwings with many small white spots.
This is a subspecies in Scotland but also occurs amongst the mixed population,named salmacis,in the Durham area where the typical form and artaxerxes meet and breed.

agestis
group salmacis Stephens. Ill.Brit.Ent.Haust.1831.3.p.235.
This consists of a number of forms caused by the meeting and interbreeding of the Scottish subsp.artaxerxes and the typical form in England. Stephens named the intermed-iate ones salmacis,which generally speaking,have black discoidal spots on the forewin sometimes ringed with white,no orange lunules or very faint ones,and on the hindwings small ones. On the underside the white spots have much weaker black pupils than the typical form.
The original description is - Fuscous black,the male with a black discoidal spot,the female with a white one. The hindwings with red marginal lunules. Underside becoming fuscous with sub-ocellated spots.
The female described by Stephens is merely the artaxerxes-like form which occurs amongst the population,he apparently thought it the female of the black discoidal spot male. Since salmacis is not a subspecies and not an aberration I suggest that it be called "group" salmacis.

The following forms belong to artaxerxes or salmacis ---

ab.caeruleo-annulata Carter & Harrison. Entom.1923.56.p.107.
On the upperside the black discoidal spot of the forewings is ringed with blue scales. Sometimes the blue is only on the extreme edge of the surround,white scales showing also.
Described from the mixed "salmacis" group.

ab.recessa Carter & Harrison. Entom.1923.56.p.108.
On the upperside a total disappearance of the discoidal spots,whether white,black,or blue.
Described from the mixed salmacis group.

ab.subquadripunctata Harrison. Ent.Rec.1906.18.p.236.
Like quadripuncta Tutt with white discoidal spots on all four wings but showing black pupils. Described from the mixed salmacis group.
Presumably this would show more white than albiannulata and is on all four wings. Harrison's albiannulata had the black discoidal spot ringed with white but he does not say if it is on forewings only,it is a synonym of snelleni Ter.-Har. which occurs among English populations as well as salmacis.

ab.garretti Carter & Harrison. Vasculum 1929.15.p.17.
On the upperside the black discoidal spots of the forewings are ringed with white. On the hindwings the discoidals are white as in ab.quadripunctata Tutt.

ab. eos Harrison & Carter. Vasculum 1929.15.p.147.
On the upperside all four wings show a black discoidal spot, that of the hindwings being fainter but definite.

ab. albimaculata Harrison. Ent. Rec. 1905.17.p.281.
On the upperside of the hindwing each red lunule is followed by a clear white dash. Underside the same as ab. vedrae which is an underside form (see undersides) Described from the mixed salmacis group.

ab. icaroides Harrison & Carter. Vasculum. 1929.15.p.148.
Upperside with white discoidal spots on the forewings as in the Scotch and Durham artaxerxes form. In addition it is suffused along the termen inwardly with bluish-white scales. In one specimen the suffusion is so strong that it would be more correct to describe the ground colour as bluish-white. At first glance it appears to be a hybrid between icarus and agestis but it is an aberrant agestis. From Fifeshire and probably restricted to artaxerxes form.

ab. inclara Harrison. Ent. Rec. 1905.17.p.281.
Dwarf form occurring throughout the range of salmacis and artaxerxes, only two thirds the size of typical astrarche. Underside silvery grey like C. minima, the white ocelli very small and indistinct, the row of four near the basal angle reduced to two.
The name must be restricted to artaxerxes and salmacis forms.

ab. chrysophanoides Harrison & Carter. Vasculum 1929.15.p.147.
At its minimum expression the forewings are powdered with coppery scales appearing as a wedge travelling outwards from the didcoidal spot, whilst at its maximum these suffusions display themselves as coppery wedges more or less concentrated along the veins.

ab. quadripuncta Tutt. Brit. Butts. 1896.p.180.
Specimens of artaxerxes showing a white discoidal spot on the hindwings as well as the forewings.

ab. caeruleopuncta Tutt. Brit. Lep. 1912. XI. p.243.
Specimens of artaxerxes with the white discoidal spot of the forewings replaced by blue.

ab. similis Tutt. Brit. Lep. 1912. XI. p.244.
Since Stephens described the female of his "salmacis" as possessing a white discoidal spot on the forewings Tutt says there is no name for the male with a white spot and gives "similis" for it. Since these white-spotted examples of both sexes are actually artaxerxes appearing in the mixed population there is no need for the name. If it is used at all it must be restricted to the artaxerxes-like form occurring in the Durham area but it would seem ridiculous to call the female form salmacis and the male form similis.

forms occurring in any British race or area --

ab.unicolor Lempke. Tijdschr.Ent.1955.98.p.304.
= allous Auct. (nec Hubner. Samml.Eur.Schmett.1834-41.pl.200.f.990.)
On the upperside the orange marginal spots fail completely on all four wings.
These examples have invariably been called "ab.allous Hubner" but allous is a Continental subspecies. Lempke has given the aberration the name of unicolor to avoid confusion,although under the new rules concerning infra-specific forms the name "ab.allous" could still be used.

ab.semi-allous Harrison. Ent.Rec.1906.18.p.236.
= semiallous Hanriemann. Int.Ent.Z.1916.10.p.8.
On the upperside the row of red spots becoming obsolete.
Transitional to the preceding.

ab.pallidior Oberthur. Lep.Comp.1910.4.p.253.(fig.Lep.Comp.6.p.491.f.2378.)
= straminea-marginata Frohavk. Vars.Brit.Butts.1938.pl.47.f.7.
On the upperside the row of marginal lunules are yellow instead of orange or red.

ab.albisignata Tutt. Brit.Lep.1912.XI.p.233.
On the upperside of the hindwings there is an outer edging of white between the marginal black spots and the margin. These black spots are situated on the outer edge of the orange lunules and are not present in all agestis.

ab.caeruleosignata Verity. Farf.Diurn It.1943.2.p.206.
On the upperside of the hindwings there is an outer edging between the orange lunules and the margin.

ab.graafii Ver-Huell. Sepp Ned.Ins.1855.7.Preface p.III.figured Title page.
On the upperside the marginal lunules are white instead of orange or red.

ab.snelleni Ter Haar. Onze Vlinders 1900.p.13.
= albiannulata Harrison. Ent.Rec.1906.18.p.236.
On the upperside of the forewings the black discoidal spot is ringed with white.

ab.supracuneata Lempke. Tijdschr.Ent.1955.98.p.303.
On the upperside of the hindwings is a white wedge-shaped line from the orange marginal spots in the direction of the base,corresponding with the white dash on the underside.

ab.pseudo-cramera Vorbrodt. Mitt.Schweiz Ent.Ges.1917.12.p.446.
Lempke includes this form but in my opinion the name is nom.nudem. Vorbrodt merely says "cramera Eschh. Courvoisier caught specimens inseparable from this around Basel in the first half of May.He suggests that such examples which in the underside are sometimes grey and sometimes red-brown,be called pseudo-cramera."
Lempke says the orange lunules of the upperside large,only separated by the veins. cramera is a species from Canary Is.etc.and has this character.

ab.lilliputana Oberthur. Lep.Comp.1916.10.p.386.p.491.f.2384.(Sicily)f.2385(Sebdou.)
= minor Blackie. Entom.1919.52.p.234.
= microdes Cabeau. Rev.Mens.Soc.Ent.Nam.1922.22.p.54.
= sebdouca Strand.(nom.nov.pro lilliputana Ob.) Arch.Naturg.(1925)1927.91.12.p.
Very small specimens of various sizes. lilliputana was from Sicily and Sebdou Some authors including Verity and Bollow.place lilliputana Ob.as an ab.of L.cramera. Strand for reasons best known to himself renamed it sebdouca. The specimen figured first(from Sicily)is an agestis and Oberthurs name must stand for this.

agestis Schiff. continued.

P. T. O. for underside forms

agestis Schiff. continued.
(underside forms)

ab. albicans Aurivillius Nord. Fjar. 1888. p. 19.
The underside of the wings almost white, the ocelli absent or very small, their white rings not visible because of the white ground.

ab. deleta Cockerell. Entom. 1889. 22. p. 99.
Underside pearly white with bright marginal lunules. The normal black spots absent except for the discoidal spots and two small spots on the hindwings near the inner margin.

ab. impunctata Oberthur. Lep. Comp. 4. p. 253. (1910) fig. Lep. Comp. 10. pl. 290.
= caeca Blachier. Bull. Soc. Lep. Gen. 1910. 2. p. 54. pl. 1. f. 13.
= caeca Courvoisier. Iris 1912. 26. p. 63.
Underside flax-grey, all ocellated spots absent except the discoidals.

ab. antero-obsoleta Tutt. Brit. Lep. 1912. XI. p. 258.
On the underside of the forewings obsolescence of the spotting.
Lempke has restricted the name to obsolescence of the submedian spots.

ab. postico-obsoleta Tutt. Brit. Lep. 1912. XI. p. 258.
On the underside of the hindwings obsolescence of the spotting.

ab. obsoleta Tutt. Brit. Lep. 1912. XI. p. 258.
= paucipuncta Courvoisier. Iris 1912. 26. p. 63.
The underside showing obsolescence of the spots on all four wings.

ab. albolimbata Lempke. Tijdschr. Ent. 1955. 98. p. 304.
On the underside of the forewings the black terminal spots fail so that a broad white outer border results.

ab. cuneata Carter & Harrison. Entom. 1921/54. p. 249. fig. p. 50.
The underside ashen-grey with all the ocellated spots absent except the discoidals. There are five interneural wedge-shaped dashes of lighter ground colour situated in the apical area of the forewings between the marginal lunules and the discoidal spot, divided only by the blackish veins. The marginal spots are progressively obsolescent from the anal angle to the apex. Hindwings slightly ochreous-white, the veins finely black, the interneural wedges brown.
Described from the mixed salmacis group but could occur in other populations.

ab. uniformata Peerdeman. Ent. Ber (Amst.) 1962. 22. p. 41. pl. 3.
On the underside the spots on all four wings are without the usual white rings and the hindwings without the white streak, giving a much more unicolorous appearance.

ab. nigropunctata Tutt. Brit. Lep. 1912. XI. p. 247.
The underside coffee-coloured, the white rings of the ocelli having disappeared, only the black spots remaining. Hindwings with no white wedge or scar.
Described from the mixed salmacis group, probably occurring in other populations.

agestis Schiff. continued.
(underside forms)

ab. parvipuncta Tutt. Brit.Lep.1914. XI.p.258.
On the underside the spots are very small.

ab. crassipuncta Tutt. Brit.Lep.1914. XI.p.258.
On the underside the spots are very large.

ab. suffusa Tutt. Brit.Lep.1914. XI.p.259.
On the underside the spots are black but suffused, the ground colour white.

ab. pluripuncta Courvoisier. Iris 1914. 26. p.58.
On the underside extra small spots appear in the submedian-discoidal spot area, usually on the forewings.

ab. discreta Tutt. Brit.Lep.1914. XI.p.259.
On the underside the submedian spots are thrown outwards nearer to the marginal lunules.

ab. glomerata Tutt. Brit.Lep.1914. XI.p.259.
On the underside the submedian spots are drawn inwards towards the discoidal spot, making a sort of semi-circle around it.

ab. separata Tutt. Brit.Lep.1912. XI.p.234.
On the underside of the hindwings the upper submedian spot is brought inwards towards the upper basal spot and therefore widely separated from the submedian spot which usually almost touches it.
Hardly worthy of a name, one spot being slightly out of its usual line. The two forms following are similar.

ab. directa Tutt. Brit.Lep.1912. XI.p.234.
On the underside of the hindwings the second submedian spot is directly under the first or costal spot, instead of being slightly exterior to it.

ab. intrusa Tutt. Brit.Lep.1912. XI.p.234.
On the underside of the hindwings the second submedian spot is nearer, sometimes considerably, nearer the base than its normal position which is slightly exterior to the topmost submedian.

ab. costajuncta Tutt. Brit.Lep.1912. XI.p.259.
On the underside of the hindwings the topmost submedian spot is connected with the upper basal spot to form a streak or bar.

ab. retrojuncta Lempke. Tijdschr.Ent.1955. 98.p.304.
On the underside the penultimate submedian spot is connected with an opposite basal spot to form a streak or bar.

agestis Schiff. continued.
(underside forms)

ab. elongata Courvoisier. Ent. Z. 1910. 24. p. 126.
On the underside the submedian spots are elongated into streaks but do not connect with any other spots.

ab. discojuncta Lempke. Tijdschr. Ent. 1955. 98. p. 304.
On the underside of the forewings one of the submedian spots is connected with the discoidal spot.

ab. subtus-radiata Oberthur. Etudes 1896. 20. p. 24. pl. 4. f. 51.
= radiata Oberthur. Lep. Comp. 1910. 4. p. 253.
= radiata Courvoisier. Ent. Z. 1910. 24. p. 126.
= striata Frohawk. Vars. Brit. Butts. 1938. p. 116.
On the underside the submedian spots are connected with the marginal chevrons in short bars.

ab. striata Curtis. Trans. Ent. Soc. S. England. 1933. 8. p. 107.

form aestiva Zeller. Isis 1847. 40. p. 155.
= aestiva Staudinger. Mor. Soc. Ent. Ross. 1871. 7. p. 52.
= aestiva Mosley. Nat. Journ. Suppl. 1896. p. 8.
The underside of a deep brown-grey. Specimens of the summer generation.

ab. peraurantia Bright & Leeds. Mon. Coridon 1941. p. 139.
On the underside of the forewings the orange lunules normally extend from the tornus up to the apex. In peraurantia these are reduced in number.

ab. carteri Harrison. Vasculum 1928. 14. p. 139.
On the underside of the hindwings there is a total absence of the black pupil to the white discoidal scar.
Described from the mixed salmacis group but may well occur in all races.

ab. vedrae Harrison. Ent. Rec. 1905. 17. p. 281.
On the underside of the hindwings all the white ocelli together with their black pupils are absent except two, the discal scar (without pupil) and a minute one (with pupil) near the anal angle, not even the white ocelli occur as in ab. artaxerxes in consequence the ground colour appears darker brown. The forewings are normal in the majority of examples but in extreme cases they follow the hindwings exactly The upperside with the discoidal spot edged with white scales.
Described from the mixed salmacis group and apparently meant to be restricted to it. If not, it has priority over obsoleta Tutt.

ab. semi-vedrae Harrison. Ent. Rec. 1906. 18. p. 236.
The underside of the hindwings tending towards obsolescence.
Described from the mixed salmacis population.

8. agestis Schiff. continued.
(underside forms)

ab. brunnescens Harrison. Ent, Rec. 1906. 18. p. 237.
Underside of the wings of a rich warm brown, almost chocolate, the white scar or wedge of the hindwings suffused with brown, the fringes sharply divided into an inwards white band and an outer brown band.
Described from the mixed salmacis population and possibly confined to it in the Durham area.

ab. fumata Tutt. Brit. Lep. 1912. XI. p. 247.
Underside of all four wings of a curious smoky-black with the spots almost obscured.
Described from the mixed salmacis population in the Durham area.

ab. sarmatis Grum Grshimailo. (in Frohawk's Vars. Brit. Butts. 1938. pl. 47 fig. 5.)
This is completely incorrect, sarmatis is a subspecies from Russia with white underside. Frohawk's specimen has no spots except the discoidal on a whitish ground and belongs to ab. albicans Aurivilleus.

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icarus Rottenburg.Naturf.1775.6.p.21.

Subspecies from England and Ireland.

icarus
subsp.tutti Oberthur. Lep.Comp.1910.4.p.238.
According to Oberthur the English icarus are different from the Continental races. More lengthened amd less rounded forewings,the underside of the male deeper grey in tint and the upperside more rosy in colour. Female generally blue with orange marginal lunules and a whitish lightening generally near the apex of the forewings.

icarus
subsp.mariscolore Kane. Entom.1893.26.p.243.(see Entom.20.p.73.pl.2.figs.)
= clara Tutt.(raised to rank of subspecies) Ent.Rec.1902.14.p.113.
= "ab.clara" Tutt. Brit.Butts.1896.p.175.
The subspecies from Ireland and parts of Scotland. Larger size and the female of a more brilliant blue,bordered with bright orange marginal ocelli.
Tutt's clara was first named as an aberration,probably from England and not Ireland since the description says "bright blue with the forewings marginal lunules almost obsolete" which does not fit Irish females which nearly always have the marginal lunules rich,and well developed.He also states that clara only occurs in the Spring generation but in most parts of Ireland the species is single brooded.Nothing is said about the larger size. However in 1902,Tutt raised clara to the rank of subspecies with a different description saying that it is larger and brighter approaching the tint of bellargus,the females usually well marked with blue.
Kane's name mariscolore was preoccupied by mariscolore Gerhard but the latter is merely an aberration and under the new rules does not rule out Kane's name which has priority over Tutt's clara.

subsp.mariscolore
gen.aest.postclara Graves. Ent.Rec.1930.42.p.99.
In parts of Ireland there is a second generation,to which this name is given.
Graves accepted Tutt's name of clara for the Irish subspecies.

Aberrational forms etc.

ab.pallida Tutt. Brit.Butts.1896.p.175. (see Brit.Lep.1910.XI.p.136.)
= rosea Verity. Bull.Soc.Ent.Fr.1903.p.288.
= opalizans Frohawk. Vars.Brit.Butts.1938.pl.28.f.2.p.123.
Male with the upperside pale lilac-blue with a reddish tinge.
Verity's rosea was very pale lilac-blue with a rosy reflection.
Frohawk's coloured figure is of a pale lilac blue with a tinge of reddish. His description says it is of a pale opalescent colouring.

ab.erosoides Tutt.(nom.nov.pro eros Stephens) Brit.Lep.1910.XI.p.138.
= eros Stephens(nec.Ochsenheimer) Ill.Brit.Ent.Haust.1829.1.p.93.(misidentification
Male with the ground colour approaching that of eros Ochsenheimer,or of a "coridon" tint.

ab.arionoides Tutt. Brit.Lep.1910.XI.p.128.
Male with dark iron-blue ground colour similar to that of M.arion.

ab. hylasoides Tutt. Brit. Lep. 1910. XI. p. 128.
Male with brilliant glossy blue ground colour, similar to that of hylas.

ab. hyperadonius Donovan. Cat. Lep. Ireland. 1936. p. 14.
Male of a brilliant steely blue exceeding the effulgence of bellargus.

ab. candaon Bergstrasser. Icon 1779. 1. pl. 6. f. 3-4.
Male with bright blue ground, without a red or purple tinge.

ab. dorylas Jermyn, Butt. Coll. Vade mecum 1827
Male of a bright lilac blue.
Possibly a synonym of the type.

ab. livida Gillmer. Int. Ent. Z. 1909. 3. p. 64.
Male with lead coloured grey-blue upperside, analogous with ab. suffusa Cockerell of L. bellargus.

ab. albinos Verity. Bull. Soc. Ent. Fr. 1903. p. 288. (fig. Farf. Diurn. It. pl. f. 19.
The figure shows a male, mostly blue but with large patches of whitish on the outer parts of the wings. The underside nearly white with the marginal lunules absent.
Probably pathological

ab. latimargo Courvoisier. Mitt. Schweiz. Ent. Ges. 1903. XI. p. 23.
Male, with the normally narrow, dark margin on the upperside of the wings unusually broad.

ab. nigromaculata Cockerell. Entom. 1889. 22. p. 99.
= celina Tutt. (nec. Oberthur, Aust.) Brit. Butts. 1896. p. 175.
= punctigera Aigner. Ann. Mus. Nat. Hung. 1896. 4. p. 516.
= punctifera Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 23.
Male. On the hindwings a series of small black spots before the margin.

ab. rufopunctatus Neuburger. Soc. Ent. 1907. 21. p. 180.
= rufopunctata Rebel. Berge's Schmett. 1910. p. 70.
Male. On the upperside of the hindwings two orange spots on the blue ground of the margin towards the anal angle.

ab. pseudocyllarus Verity. Bull. Soc. Ent. Fr. 1903. p. 288.
Male. The wings with blue scaling only at the base. The rest of the wings brownish drab as though the blue scales had been rubbed off, the spots of the underside showing through. No marginal lunules.

ab. transparens Tutt. Brit. Lep. 1910. XI. p. 148.
Both sexes. The wing scaling so thin that the spots of the underside show through.

ab. labienus Jermyn. Butt. Coll. Vade Mecum. 1824. Ed. 1. p. 58.
= eros Wood. (nom. preoc. Ochs.). Ind. Ent. 1839. 8. pl. 3. f. 70.
= pusillus Gerhard. Vers. Mon. Eur. Schmett. 1853. pl. 28. f. 3 a-c.
Dwarf specimens of a pale lilac-blue.
These must be very similar to pallida Tutt but are sparated on account of their small size.

icarus Rott. continued.
(female forms.)

icarus ♀ typical form - Naturf.1775.6.p.21-22.
The first part of the description says dark brown on the upperside with a series of orange spots found in some specimens on all wings. This is taken as the typical female with no blue scaling on the wings.

ab.fusca Gillmer. Int. Ent. Z.1908.2.p.11.
= brunnea Courvoisier.(nom.preoc.Fuchs 1900.) Ent. Z.1910.24.p.141.
Female with the upperside entirely brown with no orange marginal lunules.

ab.anticoelunata Verity.(nom.nov.pro thersites Tutt nec. Gerhard.)Farf.Di.It.1943.4.p.247
= thersites Tutt(nec. Gerhard.) Brit.Lep.1910.XI.p.140.
Female with the upperside brown with no fulvous marginal lunules on the forewings but small ones on the hindwings.
Tutt treated thersites Gerhard as an aberration of icarus but it is a separate species Verity consequently named the icarus aberration as anticoelunata. Because of this the combination forms of thersites named by Tutt may be altered to anticoelunata plus the combination name, such as thersites-thetis etc. Under the present rules this was not necessary, aberrational names being infra-specific the name thersites could still stand.

ab.fusciolus Geoffroy. Fourc.Ent.Paris.1785.p.245.
= atrescens Tutt. Brit.Lep.1910.XI.p.129.
Female with the upperside deep black-brown and with orange marginal lunules on all wings.
This is very similar to the typical form but separable on account of its much darker ground colour.

ab.astrachoides Tutt. Brit.Lep.1910.XI.p.141.
Female with the upperside almost indistinguishable from astrache. All wings brown with well-developed orange marginal lunules. On the underside there is no basal spot on the forewings as in astrache.

ab.isabellata Rostagno. Bull. Soc. Zool. It.1906.7.p.272.
Female with light sabelline ground colour as though it had been exposed to sunlight but was fresh and recently emerged when collected.

ab.albomarginata Tutt. Brit.Lep.1910.XI.p.130.
Female. On the hindwings the marginal black spots are edged externally with white. Fulvous lunules are not mentioned, presumably without.

ab.caeruleomarginata Tutt. Brit.Lep.1910.XI.p.130.
Female. On the hindwings the marginal black spots are edged externally with blue. Fulvous lunules not mentioned, presumably without.

ab.pampholyge Bergstraser. Nom.1779.2.p.77.pl.47.f.1-2.
Female. The wings brown with orange lunules on all wings, those of the hindwings edged externally with blue but no other blue scaling.

ab.caerulescens Wheeler. Butts.Switz.1903.p.35.
= caerulea Tutt.(nom.preoc.Fuchs.) Brit.Butts.1896.p.175.
Female. The wings brown with blue scaling only in the basal area.

ab. polyphemus Esper. Eur. Schmett. 1779. 1. p. 387. pl. Suppl. XXVI. f. 2.
Female. Forewings brown with blue scaling at the base and the hindwings with blue on the outer margin and with orange marginal lunules on all wings.
The main character of this form is on the underside, a combination of united spotted forms. See underside forms for description.

ab. anticoelunata-caerulescens Verity. (anticoelunata nom. nov. pro thersites Tutt.)
= thersites-caerulescens Tutt. Brit. Lep. 1910. XI. p. 143.
Female. The wings brown with blue only at the base and with orange marginal lunules on the hindwings only.

ab. fusca-caerulescens Tutt. Brit. Lep. 1910. XI. p. 143.
Female. The wings brown with blue only at the base and with no trace of orange marginal lunules.

ab. oceanus Bergstraser. Nom. 1779. 3. p. 9. pl. 53. f. 3-4.
= thetis Esper. Eur. Schmett. 1777. 1. p. 332. pl. 32. f. 2. (homonym Drury 1773)
= coerulea Aurivillius.
Female. The wings brown with blue scaling from the base to just beyond the discoidal and with orange marginal lunules on all wings.
Similar to the following thestylis Kirby, the latter having only faint orange lunules on the forewings.

ab. thestylis Kirby. Jermyn's Butt. Vade Mecum, 1827. p. 167,
Female. The wings black-brown with deep blue disc, the forewings with faint traces of marginal lunules, the hindwings with a band of orange lunules.
Only differs from the preceding by the lunules on the forewings being faint.

ab. caerulea Fuchs. Stett. Ent. Z. 1877. p. 133.
= glauca Maassen. Stett. Ent. Z. 1880. p. 160.
Female. The wings blue from the base almost to the marginal lunules. The costa, discoidal spot and the nervures blackish.
Placed as a synonym of thetis Esper by Tutt but from its description would seem to be more extensively blue than the figures by Esper.

? ab. lacon Kirby. Jermyn's Butt, Coll. Vade Mecum 1827. p. 168.
Tutt places this form in icarus but in my opinion it is a worn bellargus.
Female like thestylis Kirby but the fringe of the hindwings is barred with brown.

ab. supra-caerulea Oberthur. Etudes 1896. 20. pl. 4. f. 46.
= amethystina Gillmer. Int. Ent. Z. 1908. 2. p. 10-11.
Female with the wings entirely blue from base to marginal lunules, even the costa is blue. The orange marginal lunules are well-developed on all four wings.
Gillmer apparently did not accept Oberthur's name taking it merely as a descriptive term. He cites the plate and figure by Oberthur and renames it amethystina. Some authors accept Oberthur's descriptive latin terms, others do not. In these notes they are accepted until a decision is made by the Commission.

ab. thestylis-albomarginata Tutt. Brit. Lep. 1910. XI. p. 144.
Female. The wings blue from base to beyond the discoidal and with orange marginal lunules on all four wings. In addition silvery-white external edging to the marginal spots of the hindwings.

ab. fusca-thestylis Tutt. Brit. Lep. 1910. XI. p. 130.
Brown with blue scaling to beyond the discoidal spot. No marginal lunules.

Farf.Diurn.It.1943.2.p.247.
ab.anticoelunata-thestylis (anticoelunata Verity nom.nov.pro thersites Tutt.)
= thersites-thestylis Tutt. Brit.Lep.1910.XI.p.131.
Female. The wings blue to beyond the discoidal spot and orange marginal lunules on the hindwings only.
Verity renamed the thersites of Tutt because thersites Gerhard is a separate species.

ab.fusca-thetis Tutt. Brit.Lep.1910.XI.p.131.
Female. The wings blue to beyond the discoidal spot, the costa and outer margin dark brown or black. No orange marginal lunules.

Farf.Diurn It.1943.2.p.247.
ab.anticoelunata -thetis (anticoelunata Verity nom.nov.pro thersites Tutt.)
= thersites-thetis Tutt. Brit.Lep.1910.XI.p.131
Female. The wings blue to beyond the discoidal spot, the costa and outer margin dark brown and orange marginal lunules on the hindwings only.
Verity renames the thersites of Tutt because thersites Gerhard is a distinct species.

ab.fusca-supracaerulea Tutt. Brit.Lep.1910.XI.p.131.
Female. The wings entirely blue including the costa but with no orange marginal lunules

ab.anticoelunata-supracaerulea Verity(nom.nov.pro thersites Tutt nec Gerhard.)
Farf.Diurn.It.1943.2.p.247.
= thersites-supracaerulea Tutt. Brit.Lep.1910.XI.p.131.
Female. The wings entirely blue including the costa but with orange marginal lunules on the hindwings only.

ab.pallescens Tutt. Brit.Lep.1910.XI.p.129.
Female. The ground colour paler than typical, somewhat greyish in tinge. The form can be scaled with blue and can be with or without marginal lunules.

ab.pallidula Tutt.(nom.nov.pro ♀ pallida Tutt) Brit.Lep.1910.XI.p.147.
= pallida Tutt.♀. Brit.Butts.1896.p.175.
Female. The original description of the female in Tutt's early work Brit.Butts, was the wings brown shaded over with lilac blue, darker costa, pale wedge-shaped mark and often pale blue margin bordering the orange lunules. In his later Brit.Lep.vol. XI, realising that this was not the female of his ♂ pallida, he renames this form pallidula.

ab.anticoelunata-semiclara Verity.(nom.nov.pro thersites-semiclara Tutt.)
Farf.Diurn.It.1943.2.p.247.
= thersites-semiclara Tutt. Brit.Lep.1910.XI.p.144.
Female. Bright blue bases to the brown wings and with orange marginal lunules on the hindwings only.
Hardly worthy of separation from the other forms with blue bases, the blue being merely brighter.

ab.semiclara Tutt. Brit.Butts.1896.p.175.
Female. The wings brown with bright blue bases and orange marginal lunules on all wings

ab.fusca-semiclara Tutt. Brit.Lep.1910.XI.p.144.
Female. Bright blue bases to the brown wings but with no marginal orange lunules.

ab. casanensis Krulikowsky. Bull. Mosc. 1890. no. 4. p. 223.
= caerulea Ruhl. Gross. Schmett. 1893. p. 268.
Female. The forewings brown with blue scaling at the base but the hindwings broadly blue. The marginal lunules small.

ab. biformis Tutt. Brit. Lep. 1910. XI. p. 148.
Apparently female. The right wings blue bearing a row of black marginal spots inwardly edged with red on both fore and hindwings. The left wings of the ordinary brown type with the orange marginal lunules well-developed. On the underside all the wings have strong orange marginal lunules.

ab. caeruleolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with orange marginal lunules on all wings which are edged internally with blue.

ab. posticocaeruleolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with orange marginal lunules on all wings, those of the hindwings being edged internally with blue.

ab. anticoelunata-caeruleolunulata Verity. see p. 10 of these notes, omitted from here.

ab. albolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with orange marginal lunules on all wings which are edged internally with white.

ab. posticoalbolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with orange marginal lunules on all wings, those of the hindwings being internally edged with white.

ab. fusca-albolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with no orange marginal lunules but the marginal area of the hindwings edged internally to the position of the orange lunules if they were present with white.

ab. fusca-caeruleolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with no marginal lunules. The marginal area of the hindwings edged internally to the position of the orange lunules, if they were present, with blue

p. 247.
ab. anticoelunata-albolunulata Verity. (nom. nov. pro thersites Tutt.) Farf. Di. It. 1943. 2.
= thersites-albolunulata Tutt. Brit. Lep. 1910. XI. p. 130.
Female. Wings brown with orange lunules on the hindwings only, these being edged internally with white.
Verity renamed the thersites of Tutt because thersites Gerhard is a distinct species.

ab. iphis-cuneata Tutt. Brit. Butts. 1896. p. 175.
Tutt split this form into the two colours white and blue in his later work [illegible]. The description said the wings brown with orange marginal lunules and pale bluish or whitish wedge-shaped mark on the hindwings.

ab. [illegible]albocuneata Tutt. Brit. Lep. 1910. XI. p. 130. = albocuneata Cabeau. Lamb. 1926. 26. f. 90.
Female. ~~Wings brown with orange marginal lunules on all wings and~~ On the hindwings a wedge-shaped mark in the disc which is white.

icarus Rott. continued.

ab. [illegible]-caeruleocuneata Tutt. Brit.Lep.1910.XI.p.130. = cometa Wize. Motyle Okalic Jez.Posnan.1917.p.7
Female. ~~Wings brown with no blue scaling and orange lunules on all wings.~~ On the hindwings a wedge-shaped mark in the disc which is blue. Colour of wings not stated

ab.caerulea-cuneata Tutt. Brit.Butts.1896.p.175.
Female. The wings brown with lilac-blue bases,wedge-shaped mark and central spot on the hindwings.
The"caerulea" in this form is apparently for the blue on the wings,the colour of the wedge-shaped mark is not given.

ab.anticoelunata-caeruleocuneata Verity.(nom.nov.pro thersites Tutt)Far.Di.It.1943.2. p.247
= thersites-caeruleocuneata Tutt. Brit.Lep.1910.XI.p.130.
Female. Brown with orange lunules on the hindwings only and a blue wedge-shaped mark in the disc of the hindwings.

ab.anticoelunata-albocuneata.Verity.(nom.nov.pro thersites Tutt)Farf.Di.It.1943.2. p.247.
= thersites-albocuneata Tutt. Brit.Lep.1910.XI.p.130.
Female. Brown with orange lunules on the hindwings only and a white wedge-shaped mark in the disc of the hindwings.

ab.fusca-albocuneata Tutt. Brit.Lep.1910.XI.p.130.
Female. Wings brown with no orange marginal lunules.On the hindwings a white wedge-shaped mark in the disc.

ab.fusca-caeruleocuneata Tutt. Brit.Lep.1910.XI.p.130.
Female. Wings brown with no orange marginal lunules.On the hindwings a blue wedge-shaped mark in the disc.

ab.albocuneata Cabeau. Lamb.1926.26.p.90. See albocuneata Tutt.
Female with a white wedge-shaped mark in the disc of the hindwings.
Tutt has named most of the forms showing this character.This name can be used for any combination not already named.

ab.cometa Wize. Motyle Okalic Jez.Posnan.1917.p.7. Synonym of caeruleocuneata Tutt
~~Female. A blue wedge-shaped mark in the disc of the hindwings.~~
~~This can be used for any form showing this character not already named.~~
~~Tutt used a very similar name but spelled caerulea for his caerulea-cuneata but the "caerulea" was for the wing coloration not the wedge-shaped mark.~~

ab.angulata Tutt. Brit.Butts.1896.p.175.
Female. Wings brownish-grey covered thinly with lilac-blue scales.On the forewings an angulated row of pale blue spots just inside the marginal lunules.Hindwings showing a pale wedge and pale blue margins.

ab.apicata Tutt. Brit.Lep.1910.XI.p.130.
Female. Wings brown with orange lunules on all wings and pale interneural lunules towards the apex of the forewings.

ab.apicata-albolunulata Tutt. Brit.Lep.1910.XI.p.130.
Female. Wings brown with orange lunules on all wings and pale interneural lunules towards the apex of the forewings and white edging on the internal side of the marginal lunules

ab.apicata-caeruleolunulata Tutt. Brit.Lep.1910.XI.p.130.
Female. Brown with orange marginal lunules on all wings and pale interneural lunules towards the apex of the forewings,also with blue edging to the marginal lunules on their inner side.

ab.apicata-albocuneata Tutt. Brit.Lep.1910.XI.p.130.
Female. Brown with orange lunules on all wings with pale interneural lunules towards the apex of the forewings.Hindwings with a whitish wedge-shaped mark in the disc.

ab.apicata-caeruleocuneata Tutt. Brit.Lep.1910.XI.p.p.130.
Female. Brown with orange marginal lunules on all wings and with pale interneural lunules towards the apex of the forewings.Hindwings with a blue wedge-shaped mark in the disc.

ab.apicata-caerulescens Tutt. Brit.Lep.1910.XI.p.130.
Female. Brown with the basal parts scaled with blue and pale interneural lunules towards the apex of the forewings.

ab.apicata-thestylis Tutt. Brit.Lep.1910.XI.p.131.
Female. Wings brown with blue scaling from the base to beyond the discoidal spot and with pale interneural lunules towards the apex of the forewings. orange marginal lunules on hindwings, faint on forewings

ab.apicata-thetis Tutt. Brit.Lep.1910.XI.p.131.
Female. Wings blue except the costa and outer margin which are still brown and with orange marginal lunules on all wings.On the forewings pale interneural lunules towards the apex. Orange marginal lunules on all wings

ab.apicata-supracaerulea Tutt. Brit.Lep.1910.XI.p.131.
Female. Wings entirely blue including the costa of the forewings and with pale interneural lunules towards the apex of the forewings. It can also show pale lunules internally edging the marginal area.

ab.albicosta Tutt. Brit.Lep.1910.XI.p.130.
Female. The costa of the forewings white,especially among the "blue" forms.

ab.albocincta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of all wings ringed with white.

ab.caeruleocincta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of all wings ringed with blue.

ab.albopuncta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of all wings in the form of white spots with no black centre.

ab.caeruleopuncta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of all wings in the form of blue spots with no black centre.

ab.anticoalbocincta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the forewings ringed with white.

ab.posticoalbocincta Tutt. Brit.Lep.1 10.XI.p.130.
Female. The discoidal spots of the hindwings ringed with white.

ab.anticocaeruleocincta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the forewings ringed with blue.

ab.posticocaeruleocincta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the hindwings ringed with blue.

ab.anticoalbopuncta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the forewings in the form of white spots with no black centre.

ab.posticoalbopuncta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the hindwings in the form of white spots with no black centre.

ab.anticocaeruleopuncta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the forewings in the form of blue spots with no black centre.

ab.posticocaeruleopuncta Tutt. Brit.Lep.1910.XI.p.130.
Female. The discoidal spots of the hindwings in the form of blue spots with no black centre.

ab.rufina Oberthur. Etudes 1894.19.p.14.pl.6.f.52.
= amoena Schultz. Ent. Z.1904.18.p.93.
= aurosa Bright & Leeds. Mon.Coridon 1938.p.118.
Female.Fore and Hindwings the orange marginal lunules are drawn out into rays towards the discoidal spot,or beyond
Leeds states that his aurosa and similar forms "cover" Oberthur's rufina.He however only mentions forewings.

ab.flaveosa Bright & Leeds. Mon.Coridon 1938.p.118.
Female. A series of rays extending from the margin of the forewings to,or beyond,the discoidal spot as in the preceding,but yellowish or golden instead of red or orange.

ab.auroextensa Bright & Leeds. Mon.Coridon 1938.p.118.
= flavastriata Dujardin. Rev.Fr.Lep.1945.10.p.172.
Female. On the forewings an orange or reddish streak outwardly separated from the marginal lunules extending to,or beyond,the discal area.
Dujardin's flavastriata had an orange stripe from the one third of the cell almost to the marginal lunules of the forewings.

ab.flaveoextensa Bright & Leeds. Mon.Coridon 1938.p.118.
Female. As in the preceding auroextensa but the streak yellowish or straw coloured.

 icarus Rott. continued.

ab.flavescens Tutt. Brit.Lep.1910.XI.p.129.
Female. The marginal lunules pale yellow instead of the normal orange-red. Also applies to the underside.

ab.aurescens Tutt. Brit.Lep.1910.XI.p.129.
Female. The marginal lunules deep orange,approaching red. Also applies to the underside.
This is so similar to the tyical form that it can hardly be termed an aberration.

ab.auropuncta Bright & Leeds. Mon.Coridon 1938.p.118.
Female. On the forewings and orange or reddish marking,confined to the area of the discoidal cell.

ab.flaveopuncta Bright & Leeds. Mon.Coridon 1938.p.118.
Female. On the forewings a yellowish or straw-coloured marking confined to the area of the discoidal cell.

ab.fimbrinotata Tutt. Brit.Lep.1910.XI.p.132.
= nigrosubciliata Donovan. Cat.Lep.Ireland 1936.p.14.
The fringes of all wings show short blackish bars on the inner part of the white fringe.
Donovan's form had the nervures,especially those of the hindwings,prolonged as black streaks half way into the white cilia.

ab.minor Cockerell. Entom.1889.22.p.176.
= nana Grund. Int.Ent.Z.1908.2.p.79.
= minor Ksienchopolsky. Rhop.Sud.Ouest Russe 1911.p.60.
Small dwarfed examples of either sex.

ab.major Tutt. Brit.Lep.1910.XI.p.152.
Large examples over 35 mm.

form ovalisquamosa Ball. Ann.Soc.Ent.Belg.1914.58.p.179.
The second generation in which the male has androconial differences from the first generation. See details for other differencies which do not appear to be constant.

ab.anticoelunata-caeruleolunulata Verity.(nom.nov.pro thersites Tutt nec.Gerh.)
Farf.Diurn Lt.1943.2.p.247.
= thersites-caeruleolunulata Tutt. Brit.Lep.1910.XI.p.130.
Female. Wing brown with orange lunules on hindwings only,the lunules edged internall internally with blue.
thersites is a distinct species,Verity renamed it anticoelunata.
Omitted from similar forms on p.6 of these notes.

icarus Rott. continued.
(underside forms)

ab. albescens Tutt. Brit. Lep. 1910. XI. p. 132.
Male. The underside pale grey, inclined to whitish.

ab. clarescens Tutt. Brit. Lep. 1910. XI. p. 132.
Male. The underside grey with a bluish tinge.

ab. grisescens Tutt. Brit. Lep. 1910. XI. p. 132.
Male. The underside dark grey.

ab. fuscescens Tutt. Brit. Lep. 1910. XI. p. 132.
Male and female. The underside of a brownish-grey.

ab. cervinescens Tutt. Brit. Lep. 1910. XI. p. 132.
Male and female. The underside of a yellow-brown or fawn.

ab. brunnescens Tutt. Brit. Lep. 1910. XI. p. 132.
Female. The underside dark brown.

ab. antifulvescens Bright & Leeds. Mon. Coridon Addenda 1941. p. 139.
Female. The underside of the forewings of a golden-brown.

ab. brunnea Fuchs. Jahrb. Nass. Ver. Nat. 1900. 53. p. 31.
Male underside reddish-grey to reddish grey-brown, the female being more rust-brown than the male.

ab. obscurior Tutt. Brit. Lep. 1910. XI. p. 132.
Female. The underside blackish.

ab. subtus-obscurior Oberthur. Etudes 1896. 20. p. 23. pl. 4. f. 45.
Female. The underside of the hindwings very dark brown.

ab. subcaerulescens Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside the basal area is blue-scaled as far as the discoidal spot.

ab. sinecaerulescens Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside there is no sign of the usual blue scaling in the basal area.

ab. fuliginosa Courvoisier. Lyc. Basel .p. 60 (see Seitz Suppl. 1. p. 274.)
On the underside the area of the orange marginal spots is duskily suffused.
(description from Seitz)

icarus Rott. continued.
underside forms.

ab.albolimbata Baumann. Mitt.Munch.Ent.Ges.1921.11.p.44.
On the underside of tho hindwings the marginal lunules are narrow and pushed inwards leaving a white border as in hylas. The small black spots in the margin are visible.

ab.barnumi Dujardin. Rev.Fr.Lep.1945.10.p.174.
On the underside all the small black marginal dots fail completely leaving each interneural space half white exteriorly,and half orange.

ab.courvoisieri Hirschke Verh.zool.-bot.Ges.Wien.1910.60.p.414.
On the underside the usual black spots,with the exception of the four basals,are red like the marginal lunules. The triangular surround to the marginal lunules are white instead of black. It is a male and the upperside is blue at the base and paler on the outer half with a reddish sheen.

ab.rufotincta Obraztsov. Z.Ost.Ent.Ver.1936.21.p.48.
Female. The underside of the forewings with the submedian spots slightly suffused with oeange,also the discoidal spot of the hindwings.

ab.argenteoguttata Tutt. Brit.Lep.1910. XI.p.174.
On the underside of the hindwings the marginal markings are ocellated with bright metallic scales as in aegon(argus).

ab.flavescens Tutt. Brit.Lep.1910. XI.p.129. & 133.
The marginal lunules pale yellow instead of the normal reddish.
Described also as an upperside form.

ab.aurescens Tutt. Brit.Lep.1910. XI.p.129. & 133.
The marginal lunules orange-red.
Hardly worthy of separation from the type form. Described also as an upperside form.

ab.rufescens Tutt. Brit.Lep.1910.XI.p.133.
On the underside the marginal lunules are bright vermilion.
Not described as an upperside form.

ab.lutescens Tutt. Brit.Lep.1910.XI.p.133.
On the underside the marginal lunules are orange-yellow.

ab.suffescens Tutt. 1910. XI.p.133.
On the underside the marginal lunules are grey.

ab.superocellata Lempke. Tijdschr.Ent.1955.98.p.316.
On the underside of the forewings the subterminal spots miss(lack)the orange markings at their outer side. They have a roundish shape and are surrounded by a white ring. They therefore make the impression of an extra row of somewhat paler coloured eye-spots.

13. icarus Rott. continued.
(underside forms.

ab. discreta Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside the submedian spots of both fore and hindwings are thrown outwards towards the margin, sometimes forming a straight line.

ab. anticodiscreta Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside of the forewings the submedian spots are thorwn outwards towards the margin.

ab. posticodiscreta Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside of the hindwings the submedian spots are thrown outwards towards the margin.

ab. glomerata Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside of both fore and hindwings the submedian and basal spots are drawn in towards the discoidal spot forming a sort of semi-circle around it.

ab. anticoglomerata Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside of the forewings the submedian and basal spots are drawn in towards the discoidal spot forming a sort of semi-circle arounf it.

ab. posticoglomerata Tutt. Brit. Lep. 1910. XI. p. 133.
On the underside of the hindwings the submedian and basal spots are drawn in towards the discoidal spot forming a sort of semi-circle around it.

ab. excessa Gillmer. Int. Ent. Z. 1908. 2. p. 178.
= addenda Tutt. Ent. Rec. 1910. 22. p. 51.
= pluripuncta Courvoisier. Iris. 1912. 26. p. 58.
On the underside small extra black spots appear on the forewings and rarely on the hindwings, usually between the submedian spots and the discoidal spot.

ab. icarinus Scharfenberg. Scriba's Journal 1791. 1. p. 216.
= impuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 24.
On the underside of the forewings there are no basal spots.
The type form is said to have two basal spots.

ab. hyacinthus Stephens. Cat. 1829. p. 24.
A small form of icarinus with no basal spots on the underside of the forewings.
Hardly worthy of separation from icarinus.

ab. candiope Bergstrasser. Nom. 1779. 2. p. 78. pl. 48. f. 3-4.
= iphis Meigen. Eur. Schmett. 1830. 2. p. 25. pl. 47. f. 5.
= unipuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 24.
On the underside of the forewings only one basal spot.

ab. semi-icarinus Bell. Ent. Rec. 1909. 21. p. 227.
On the underside one forewing has no basal spots, the other forewing with the normal two.
Hardly worthy of a name.

icarus Rott. continued.
(underside forms)

ab. semicandiope Tutt. Brit. Lep. 1910. XI. p. 162.
On the underside one forewing has only one basal spot, the other forewing with the normal two.
Hardly worthy of a separate name.

ab. mixta Tutt. Brit. Lep. 1910. XI. p. 162.
On the underside one forewing has no basal spots, the other forewing with one spot.

ab. tripuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 22.
= tripunctata Fritsch. Berl. Ent. Z. 1909. 54. p. 234.
On th underside of the forewings three basal spots instead of the normal two.

ab. quadripuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 22.
= tetrapunctata Fritsch. Berl. Ent. Z. 1909. 54. p. 234.
On the underside of the forewings four basal spots instead of the normal two.

ab. quinquepuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 22.
On the underside of the forewings five basal spots instead of the normal two.

ab. multipuncta Tutt. Brit. Lep. 1910. XI. p. 171.
On the underside of the forewings more than five basal spots.

ab. bion Rebel. Berge's Schmett. 1910. Ed. 9. p. 70.
On the underside the spots are smaller, the basal spots absent and the orange marginal spots also absent. On the hindwings a long white streak reaches the base along vein M3.

ab. parvipuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 24.
On the underside the spots are very small.

ab. parvipuncta-icarinus Tutt. Brit. Lep. 1910. XI. p. 153.
On the underside there are no basal spots on the forewings and all others are very small.

ab. albo-ocellata Gillmer. Soc. Ent. 1904. 18. p. 186.
= albomaculata Gillmer. Ent. Z. 1904. 18. p. 2.
= caeca Oberthur. Lep. Comp. 1910. 4. p. 240 & 670. pl. 43. f. 323.
= duesseldorfensis Strand. (nom. nov. pro caeca Ob.) Arch. Naturg. 1927. 91. p. 284.
= privata Schonfeld. Int. Ent. Z. 1924. 18. p. 40.
On the underside the ocellated spots contain no black centres. The marginal spots are present but fainter.

ab. subalboocellata Tutt. Brit. Lep. 1910. XI. p. 153.
On the underside some of the spots are normal with black centres but the rest are merely white without centres.

ab. albocircumcincta Tutt. Brit. Lep. 1910. XI. p. 153.
On the underside the usual black centres to the ocellated spots are replaced by grey centres of the same grey as the ground colour.

icarus Rott. continued.
(underside forms)

ab.nigroocellata Tutt. Brit.Lep.1910.XI.p.154.
On the underside the ocellated spots are without the white rings.leaving only the black dots.

ab.subobsoleta Tutt. Brit.Lep.1910.XI.p.154.
= impunctata Oberthur. Lep.Comp.1910.4.p.240.pl.42.f.322,325,326.
= paucipuncta Courvoisier. Iris.1912.26.p.63.
On the underside of the forewings some of the submedian spots and basal spots are absent. This can apply also to hindwings,or both fore and hindwings.

ab.antico-obsoleta Tutt. Brit.Lep.1910.XI.p.155.(Ent.Rec.1910.22.p.100.)
On the underside of the forewings there are no spots except the discoidal. The hindwings more or less normal but tending towards obsolescence.

ab.postico-obsoleta Tutt. Brit.Lep.1910.XI.p.155. (Ent.Rec.1910.22.p.100.)
= semipersica Rebel.(nec.Tutt) Berge's Schmett.1910.Ed.9.p.70.
= postico-inocellata Gillmer. Ent.Z.1910.4.p.4.
On the underside of the hindwings there are no spots. Forewings more or less normal but tending towards obsolescence.

ab.semipersica Tutt. Brit. Butts.1896.p.175.
= subtus-minus-punctata Oberthur. Etudes 1896.20.p.23.pl.4.f.41.
On the underside of the hindwings the spots are more or less obsolete.

ab.dextro-obsoleta Tutt. Brit.Lep.1910.XI.p.156.
On the underside the left wings are normal but the right wings with the spots obsolete.

ab.sinistro-obsoleta Tutt. Brit.Lep.1910.XI.p.156.
On the underside the right wings are normal but the left wings with the spots obsolete.

ab.obsoleta Gillmer. Int.Ent.Z.1908.2.p.178.(fig.Entom.36.p.249)
= obsoleta Clark.(nom.nud.)Entom.1905.38.p.261. (see Tutt,Brit.Lep.XI.p.156.)
= persica Tutt.(nec.Bien.). Brit.Butts.1896.p.175.
= caeca Gillmer. Int.Ent.Z.1910.4.p.3.
On the underside all the submedian and basal spots are absent and the discoidal spots very weak.

ab.? persica Bienert. Lep.Ergebnisse 1870.p.29.
On the underside the ground colour is nearly white,the ocellated spots absent and th the red marginal lunules reduced to pale shades.
Some authors,including Tutt,include this as an aberration but it is from Persia and possibly only occurs there.

ab.vacua(trans.ad.) Gillmer. Int.Ent.Z.1910.4.p.4.
This has no standing,Gillmer had never seen specimens of the form vacua which he named in coridon.This had no markings whatever on the underside. In icarus Gillmer had seen only transitional specimens and these he did not name,merely giving "ab.nov" The name "vacua" therefore cannot be used in icarus,being hypothetical.

icarus Rott. continued.
(underside forms)

ab. elongata Tutt. Brit. Lep. 1910. XI. p. 170.
= basi-elongata Courvoisier. Iris. 1912. 26. p. 46.
On the underside the basal spots are elongated.
Tutt says "elongated not duplicated".

ab. analijuncta Beuret. Journ. Ent. Suisse 1926. 5. no. 3. (Schweiz Ent. Anz. 1926. 5. p. 4. ?
On the underside of the hindwings and extra basal spot appears between the third and fourth and unites with the fourth.

ab. melanotoxa Pincitore-Marott. Giorn. Agr. e Pastor. 1872. p. 248.
= arcuata Weymer. Jahresb. Nat. Ver. Elberf. 1878. 5. p. 55.
= arcua Wheeler. Ent. Rec. 1902. 14. p. 58.
On the underside of the forewings a basal spot is united with the lowest submedian spot just above the inner margin in the form of an arc.
This form is most commonly called "arcuata" in the Lycaenidae.
see also ab. nigroarcuata Meves, p. 20

ab. minor-melanotoxa Tutt. Brit. Lep. 1910. XI. p. 170.
A very small specimen of the preceding melanotoxa(arcuata)form.
Not worthy of separation.

ab. biarcuata Fritsch. Berl. Ent. Z. 1909. 54. p. 233.
= biarcuata Tutt. Brit. Lep. 1910. XI. p. 43.
On the underside of the forewings a basal spot, or two basal spots unite, with two submedians to form a double arc, one above the other, situated just above the inner margin.

ab. semiarcuata Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 29. pl. 2. f. 4d left.
= subarcuata Bell. Ent. Rec. 1909. 21. p. 227.
On the underside of the forewings a basl spot attempts to unite with the lowest submedian as in melanotoxa, but just fails to meet in the middle.

ab. minor-semiarcuata Tutt. Brit. Lep. 1910. XI. p. 170.
A very small form of the preceding semiarcuata.
Hardly worthy of separation.

ab. arcuata-imojuncta Courvoisier. Iris. 1912. 26. p. 51.
On the underside of the forewings a basal spot united with the lowest submedian in t the form of an arc just above the inner margin. On the hindwings an extra basal spot situated between the third and fourth spot, is united with a submedian in a streak.

ab. polyphemus Esper. Eur. Schmett. 1779. 1. p. 387. pl. Suppl. CXVI. f. -.
= complicata Tutt. Brit. Lep. 1910. XI. p. 168.
= arcuata-retrojuncta Courvoisier. Iris. 1912. 26. p. 51.
On the underside of the forewings a basal spot united with the lowest submedian in the form of an arc just above the inner margin. On the hindwings the third basal spo spot united with its opposite submedian in a streak.
This form is also described in the upperside forms of these notes.

ab. regnieri Andre. Journ. Nat. Macon. 1901. 2. p. 52.
On the underside of the forewings a basal spot united with a submedian in an arc. On the hindwings a basal spot united with its opposite submedian in a streak near the costa(costajuncta). Original description not seen.

ab. arcuata-centro-retrojuncta Courvoisier. Iris.1912.26.p.51.
On the underside of the forewings a basal spot united with the lowest submedian in the form of an arc and another basal spot united with the discoidal spot in a streak On the hindwings the third basal spot united with its opposite submedian spot in a streak.

ab. arcuata-retro-imojuncta Courvoisier. Iris 1912.26.p.52.
On the underside of the forewings a basal spot united with the lowest submedian in an arc just above the inner margin. On the hindwings the third basal spot and an extra basal spot next to it, are united with opposite submedian spots to form two streaks.

ab. arcuata-costa-retrojuncta Courvoisier. Iris 1912.26.p.52.
On the underside of the forewings a basal spot united with the lowest submedian in the form of an arc juat above the inner margin. On the hindwings the first basal spot united with submedian in a streak and the third basal with the opposite submedian in another streak.

ab. arcuata-basielongata Bouret. Lamb.1927.27.p.31.
On the underside of the forewings the lower basal spot united with the lowest submedian in the form of an arc just above the inner margin and the upper basal spot elongated.

ab. quadruplex Derenne(nec Courvoisier) Lamb.1931.31.pl.1.f.5.
On the underside of the forewings the two basal spots are united to form a rather long mark. The lowest basal united with the lowest submedian in the form of an arc just above the inner margin. Hindwings with the first basal united with the first (top) submedian in a streak and the third basal united with its opposite submedian in another streak, thus making four streaks on each pair of wings.
Derenne gives Courvoisier as the author but this was for bellargus. Derenne becomes the author of this form in icarus. The figure does not show the basal spots of the forewings as a fairly long streak as the description says, it merely shows two very small spots joined together.

ab. melanostriata Crombrugghe. Rev.Mens.Soc.Ent.Nam.1911.p.83.
On the underside of the forewings a basal spot united with the lowest submedian in the form of an arc just above the inner margin. Hindwings with a large pair-shaped mark in the middle of the anal border and above it a streak, deep black.

ab. transiens Tutt. Brit.Lep.1910.XI.p.164.
= transiens ad.ab.radiatam Oberthur. Etudes 1896.20.pl.4.f.42.
On the underside of the forewings the submedian spots are elongated into ovals or of pyriform or cuneiform shape. Hindwings normal.
Named by Tutt since Oberthur's description of his figure is not a name.

ab. postico-extensa Tutt. Brit.Lep.1910.XI.p.164.
On the underside of the hindwings the submedian spots are elongated into ovals.

ab. obsoleta-postico-extensa Tutt. Brit.Lep.1910.XI.p.164.
On the underside of the forewings the spots are obsolete but on the hindwings they are wedge-shaped.

icarus Rott. continued.
(underside forms)

ab. extensa Tutt. Brit. Lep. 1910. XI. p. 164.
= discoelongata Courvoisier. Iris 1912. 26. p. 46.
On the underside an elongation of the submedian row of spots, sometimes also the basal, into long oval, pyriform or cuneate streaks on both fore and hindwings. Apparently the ovals or streaks are longer than in Tutt's transiens.

ab. crassipuncta Courvoisier. Mitt. Schweiz Ent. Ges. 1903. XI. p. 19.
On the underside the spots strikingly large.

ab. combinata Tutt. Brit. Lep. 1910. XI. p. 164.
On the underside of the forewings a basal spot attempts to unite with the lowest submedian (semiarcuata) and extra small black dots appear in the submedian-discoidal area (addenda). The other spots are very large.

ab. costajuncta Tutt. Ent. Rec. 1910. 22. p. 51.
On the underside of the hindwings the first basal spot is united with its opposite submedian spot in the form of a streal near the costa.

ab. basijuncta Tutt. Ent. Rec. 1910. 22. p. 51.
= retrojuncta Courvoisier. Iris. 1912. 26. p. 50.
On the underside of the hindwings the third basal spot is united with its opposite submedian spot in the form of a streak.

ab. imojuncta Courvoisier. Iris 1912. 26. p. 50. pl. 5. f. 15.
On the underside of the hindwings an extra basal spot appears between the third and fourth basals and unites with a submedian spot in the form of a streak.

ab. costo-retrojuncta Courvoisier. Iris 1912. 26. p. 51.
On the underside of the hindwings the first basal spot is united with the top submedian spot in a treak and the third basal to its opposite submedian in another streak.
A combination of costajuncta and basijuncta. (retrojuncta)

ab. bibasijuncta Tutt. Brit. Lep. 1910. XI. p. 135.
On the underside of the hindwings the third and fourth basal spots unite with their opposite submedian spots to form two streaks.

ab. virgularia Tutt. Brit. Lep. 1910. XI. p. 134.
On the underside of the forewings the lowest submedian spot is turned outwards to join the lowest marginal chevron.

ab. posticovirgularia Tutt. Brit. Lep. 1910. XI. p. 135.
On the underside of the hindwings the spots between nervure Ia and Ib are elongated into the shape of a comma.

ab. confluens Tutt. Brit. Lep. 1910. XI. p. 167.
= centrijuncta Courvoisier. Ent. Z. 1911. 25. p. 83.
On the underside of the forewings the upper basal spot is united with the discoidal spot in a streak.

icarus Rott. continued.
(underside forms)

ab. striata Tutt. Brit. Butts. 1896. p. 175.
On the underside the spots more or less united into streaks.
This name now is merely a "group" name and of no use in the light of the various divisions of it made since. In 1907 Courvoisier named the form with the submedian spots radiating inwards towards the discoidal digitata, and with the spots radiating outwards to the margins radiata. Gillmer in 1908 tried to get things clear and defined Tutt's striata as having the spots radiating inwards towards the discoidal as in Tutt's striata of coridon, but Tutt himself, with a strange obstinacy, would not have this at all and in Brit. Lep. XI. p. 165 states that his striata of icarus had the spots radiating outwards to the margin, the exact opposite to his striata of coridon. Courvoisier however had already named the outwards radiation radiata so Tutt's striata of 1910 becomes a synonym. Tutt then gives the name "radiata" ab. nov. for the form with the spots radiating inwards but Courvoisier had named this digitata in 1907, both of Tutt's 1910 definitions therefore fall. It would be better not to use the name striata Tutt of 1896.

ab. digitata Courvoisier. Z. Wiss. Ins. Biol. 1907. 3. p. 22. pl. 1. f. 22.
= striata Gillmer (nec Tutt) Int. Ent. Z. 1908. 2. p. 154.
= radiata Tutt. Brit. Lep. 1910. XI. p. 134 & 165.
On the underside the submedian spots are elongated into long streaks which reach the discoidal spot and a basal spot united with the discoidal spot in a streak. Forewing only.

ab. extrema Courvoisier. Z. Wiss. Ins. Biol. 1907. 3. p. 37.
On the underside of all wings a basal spot is united with the discoidal spot in a streak and the discoidal is united by two streaks to the submedians. The rest of the submedian spots are rayed outwards to unite with the marginal chevrons and also rayed inwards towards the discoidal but, apart from the two already mentioned, do not reach it.
See Courvoisier's diagram at the end of Vorbrodt's Schmett der Schweiz.

ab. sinistro-striata Tutt. Brit. Lep. 1910. XI. p. 166.
On the underside the right pair of wings are streaked or rayed, the left pair normal.

ab. anticoapicalis Tutt. Brit. Lep. 1910. XI. p. 135.
On the underside of both fore and hindwings the first or top submedian unites with a marginal chevron in a streak.
It is not at all clear why Tutt calls this antico yet states that the hindwings have the same character as the forewings. Presumably a mistake.

ab. apicijuncta Courvoisier. Iris 1912. 26. p. 51.
On the underside of the forewings the top submedian spot is united with its opposite marginal chevron in a streak.

ab. apicojuncta Tutt. Brit. Lep. 1910. XI. p. 134.
= posticoapicalis Tutt. Brit. Lep. 1910. XI. p. 135.
= limbojuncta Courvoisier. Iris 1912. 26. p. 51.
On the underside of the hindwings the top submedian spot is united with first or top marginal chevron.
Tutt named this form on p. 134 and again on p. 135, using a different name.

ab. subtus-maculis-extensis Oberthur. Etudes 1896. 20. pl. 4. f. 44.
= antico-striata Tutt. Brit. Lep. 1910. XI. p. 167.
= radiata Oberthur. (nom. preoc. Courv.) Lep. Comp. 1910. 4. p. 669. pl. 41. f. 229.
On the underside of the forewings the submedian spots are united with the marginal chevrons in the form of bars or streaks. Hindwings normal.
It is doubtful if Oberthur's name can stand, being merely a description.

icarus Rott. continued.
(underside forms)

ab.radiata Courvoisier. Z.Wiss.Ins.Biol.1907.3.p.37.
= striata Tutt of 1910.(nec.Brit.Butts.1896.p.175.)Brit.Lep.1910.XI.p.165.
On the underside of all wings the submedian spots unite with the marginal chevrons to form bars of streaks.

ab.postico-striata Tutt. Brit.Lep.1910.XI.p.167.
On the underside of the hindwings the submedian spots unite with the marginal chevrons in bars or streaks.

ab.subtus-radiata Oberthur.Etudes 1896.20.p.23.pl.4.f.43.
On the underside of the forewings the submedian spots unite with the marginal chevrons in bars or streaks. The basal spots are also elongated,on one forewing a basal spot links up with the discoidal spot which is also connected with a submedian spot in a long streak. Hindwings with the two topmost submedian spots united with the marginal chevrons.

ab.nigro-cuneata Lacreuze..Bull. Soc.Lep.Gen.1909.1.p.382.pl.9.f.1.
On the underside of the forewings the submedian spots unite with the marginal chevrons in very short bars ,the submedians being much nearer the margin than usual. The basal spots are absent giving the wings a very obsolete appearance. Hindwings semi-obsolete,the submedian spots almost touching the marginal chevrons. The black marginal dots are also absent on all four wings.

ab.radiata Oberthur.(nom.preoc.Courv.1907) Lep.Comp.1910.4.p.240.pl.43.f.321.
On the underside the forewings are obsolete with only the discoidal spot present. On the hindwings the submedian spots unite with the marginal chevrons in bars or streaks. The basal spots are well elongated.

ab.marginelineata Hackray. Lamb.1946.46.p.18.
Peroneural defect. On the underside of the forewings the four upp median ocelli are united into a transverse line and the marginal spots form an uninterrupted line. On the hindwings the median ocelli 2,3,4,5 and 6 are united,spot 7 being absent. The upper three marginal chevrons are united into a clear line and the surmounting triangles form a continuous wavy line. The black marginal dots form a line only broken in the centre.

ab.albistria Wright. Entom.1941.74.p.150.
Female. On the underside of the forewings there is a pure white streak from near the base,through the upper basal spot and continuing through the discoidal spot to a short distance beyond.

ab.nigroarcuata Meves. Ent.Tidskr.1914.35.p.3.
The underside of the forewings ornamented with a thick, curved, black longitudinal streak in cell 1b.(German description on p.38.)
Presumably the streak is blacker than in ab.melanotoxa Pinc.-Mar.(arcuata Weym.), on p.16 of these notes; if the same, it must become a synonym.

ab. radius [illegible] 1926. 15 mel.
ab. [illegible] 1927. 14. 70 [illegible] 13a.
ab. [illegible] [illegible] Ann Soc [illegible] 1945. 37 [illegible]